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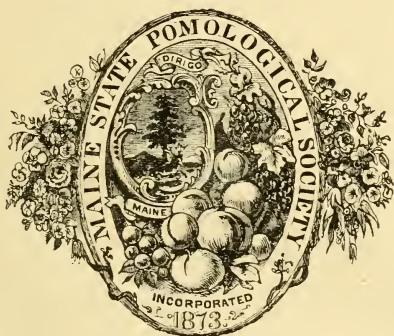






Richard H. Libbey, late member of executive committee. See Portfolio
page 114.

TRANSACTIONS
OF THE
Maine State Pomological Society
FOR THE YEAR 1905.



EDITED BY THE SECRETARY,
D. H. KNOWLTON.

AUGUSTA
KENNEBEC JOURNAL PRINT
1906

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CHAPEL

CONTENTS.

	PAGE
Secretary's Report :	
Orchard Condition	5
The Fruit Crop.....	6
The Markets	6
Meetings of Executive Committee.....	7
Public Meetings	8
Our Annual Transactions.....	9
Officers for 1905.....	10
Members of the Society—Life.....	11
Annual	12
Report of Executive Committee.....	14
Treasurer's Report	16
Business Transactions :	
Meetings of Executive Committee.....	19
Orchard Meeting	20
Annual meeting	20
Programme	21
Business Meeting	23
Election of officers for 1906.....	23
Resolutions	24
Invocation by Rev. Marcia Selman.....	27
Address of Welcome by W. W. Blanchard.....	29
Response by Prof. W. M. Munson.....	30
Annual Address by Z. A. Gilbert.....	32
The Insect Situation in Maine :	
Report of Committee.....	35
What the Agricultural Department has Done, and the Present Situation, by E. F. Hitchings.....	37
The Present Situation.....	39
Discussion	41
What More can be Done? by D. H. Knowlton.....	44
Report of Committee on New Fruits, by Prof. W. M. Munson...	48
Apples	48
Small Fruits	49

Storage of Fruit and Inspection :	PAGE
Home Storage Results, by F. H. Morse.....	52
Cooperative Storage and the Operation of the Fruit-Marks Act in Canada, by William Craig.....	55
Discussion	56
Feasibility of Legislation, etc., by Dr. George M. Twitchell	60
The Gospel of Chase's Mills, by Solon Chase.....	66
Report of Committee on Fruit Packages, by E. L. Lincoln.....	69
Discussion	73
Our Orchard Meeting :	
The Place Where it was Held and What its Proprietor has Accomplished, by John W. True.....	78
Lessons Learned at the Orchard Meeting, by Edward L. White	80
Results of Fertilizing and Cultivating, by V. P. DeCoster.	82
Experiments in Orchard Fertilizing, by W. M. Munson...	88
A Ladies' Night :	
A Woman's Work in Fruit Growing, by Lilla M. Scales..	93
A Woman's Work in Orcharding, by Mary Augusta Bass.	99
A Woman's Work in Beautifying the Home, by Mrs. Kate B. Ellis	106
Secretary's Portfolio :	
Let the Good Work go on.....	113
Richard H. Libbey, by Dr. Geo. M. Twitchell.....	114
Hon. Charles A. Marston.....	116
Francis Fessenden	116
Farmer-Packed Apples	117
Good Wishes	117
Words from an English Buyer.....	118
A Buyer's Estimate of the Canadian Fruit-Marks Act....	120

SECRETARY'S REPORT.

ORCHARD CONDITION.

The winter of 1904-5 was severe and many trees that had been weakened by heavy bearing, suffered to the extent of killing many limbs, and frequently entire trees. The Baldwin trees were the greatest sufferers. For several years they had borne heavily, and where the trees had been neither fertilized or cultivated, the injury was most conspicuous. This will be made apparent by the papers and discussions prepared for the annual meeting. It is gratifying to note that those orchards that received cultivation and fertilization, although bearing more fruit than those neglected, had stored up strength to resist both cold and disease. There are more such orchards in the State than ever before, and the number is increasing.

In his travels over the State the secretary notes many neglected orchards, some containing old trees that have long outlived their usefulness, and only menace other trees in consequence of the dangerous insects and diseases that abound among them. Better, far better, to clear up these than to spend time and money on new trees. Neglected opportunities are very noticeable in thousands of seedling trees that are producing only natural fruit. Worked over into desirable varieties these trees would soon become a source of wealth to the owner.

Although we read of the extensive orchard planting in the West and South as reiterated over and over, there is nowhere more profitable returns than come from Maine orcharding. Sometimes there may be a dull market in consequence of large crops, but this is equally true in every department of agriculture. An orchard on a steep hillside was purchased last year for \$2850. It bore 300 barrels last year and this year 600. It seemed to many a large price and yet it will pay better than

bank stock, and is a little safer than mining stock. An orchard of 1200 trees in a Maine town is in the market for \$3000, less than \$3 per tree, and yet the orchard bore 310 barrels of marketable fruit. There are still other opportunities of this sort and it seems to the secretary that they offer the most favorable conditions for commercial fruit growing in Maine.

THE FRUIT CROP.

Many inquiries have come to the secretary during the year, asking for information about the apple crop. Some have asked how it compared with an *average* crop, but I do not know what an average crop of apples really is, and I don't believe any one else does. Thousands of young trees have been coming into bearing in the State every year, so that there are thousands of barrels of fruit on these trees that never bore before; and it is going to be so for years to come. In the estimates I have made I have compared the crop with that of 1904. The figures have been from one-third to one-half of that crop. Now that the fruit is harvested, it shows quite the one-half.

The estimated crop last year was a little over a million barrels, and a probable sale of over 500,000 barrels. From this the crop for 1905 would be a little over 500,000 barrels. The low price last year led many to feed out their apples to the stock, but this year, the prices being more, indications point to the sale of the entire marketable crop. There was a good demand for the early fruit with satisfactory prices.

THE MARKETS.

While there has been a good demand for early fruit in Boston and nearby cities, a large part of the later fruit is going forward to Liverpool. Still there is more or less fruit being sent to Western cities. It was urged by President Gilbert not long since, that we should make more account of our local markets. And this subject certainly deserves attention. Within the past three months I have had inquiries from responsible dealers in Pittsburg, Cincinnati, Chicago, St. Louis and Minneapolis, from which it would seem that they want to handle our fruit. There is one thing we may be sure of, they are much nearer than Liverpool and we can better understand their methods of selling the fruit in the home markets.

Many growers have had apples in the past and many have them now, that they would be glad to send to Boston but for the fact that there are no heater cars available for less than car-load lots, so that a man who has twenty barrels of Northern Spy that are worth more in Boston than in Liverpool, cannot send them to either place during the cold weather. The result is that he must either sell to the local buyer or make some deal with the shipper who may or may not be taking in fruit at the time he is ready to sell. Perhaps if we should ask it the railroads would send a heater once or twice a week over the different lines to enable small growers to ship their own fruit if they wished to do so.

I met a gentleman the other day who is receiving fruit in small lots, to be sent in car lots to Boston. He has made arrangements with reliable parties to receive the same and send it forward or cause it to be delivered to any one in the city. For doing this work he receives five cents per barrel, but his patrons have the benefit of the car rate, which for my county makes a saving of (18 less 5) about 13 cents on a barrel. It is a new plan in my part of the State, but it seems worthy of trial elsewhere.

Not long since an "apple trust" went into effect in England, under which an association of fruit auctioneers was formed to bar all buyers from the auction room who do not join the trust. The first sale of apples made after it went into effect caused a "slump" of several shillings in the price. The effort of the trust seems to be to limit competition in the auction rooms. To what extent this situation may affect the price of our fruit this year, one cannot tell, but to me it seems to place the advantage in the buyers' hands. There are English auctioneers who are not in the trust, and so the grower may exercise some choice in the matter. We shall see what we shall see.

MEETINGS OF EXECUTIVE COMMITTEE.

There have been three meetings in all. The first was a twin-meeting—to close up the affairs of the old year and to lay out the work for the new year. The second meeting was held in connection with the orchard meeting in August. At this meeting the death of Mr. R. H. Libbey, an efficient and

esteemed member of the committee, was officially announced. It was voted to ask Dr. Geo. M. Twitchell to prepare and present to the annual meeting, a suitable memorial of our beloved associate. At the same meeting it was also voted to ask Mr. Will E. Leland of East Sangerville to fill temporarily the position made vacant by Mr. Libbey's death.

PUBLIC MEETINGS.

With the funds available your executive committee did not see the way clear to arrange for more than two meetings—the orchard meeting and the annual meeting.

The orchard meeting was held with Mr. John W. True of New Gloucester, August 31st. The early morning was unfavorable and a storm seemed to be threatening for the day, but by nine o'clock the rain had ceased falling and the sunshine brushed away the clouds. About a hundred and fifty put in an appearance and Mr. True's garden and orchards became special objects of study. Reference is made to the meeting and its results, which occupied one session of our annual meeting. The officers and invited guests were royally entertained by Mr. True and his family. The occasion was altogether pleasant and profitable, and the secretary expresses the hope that these field meetings may be made more frequent.

By invitation of Canton Grange of Canton the annual meeting was held in Grange Hall, Canton, November 14, 15 and 16. The first day was devoted to the preparation of the exhibition, which was of excellent quality, though displayed in crowded quarters. The programme was largely determined by the society at its last annual meeting. It was intensely practical and especially helpful to the fruit growers of the State. A cordial good feeling prevailed, and the general verdict of all was that as a whole the meeting was one of the pleasantest and most satisfactory in the history of the society. General regret was expressed at the absence of President Gilbert, who found a telegram awaiting him on his arrival in Canton the first day, announcing the death of his brother, Rev. Selden Gilbert.

OUR ANNUAL TRANSACTIONS.

Your secretary has frequently called attention to the importance of having our transactions available during the winter when it is most needed, and when it is of the most value to the farmers. This year the first copies were distributed at our orchard meeting, Aug. 31st. It has been the custom to print the agricultural report last of all and it seems unfortunate to have this delay when the information it contains is inquired for over and over again. The winter affords the best opportunity for reading and studying the contents so that when the springtime comes, its recommendations may be adopted. Think of it! Most of the matter contained in our report was presented at our meeting last November, and it was not available for the farmers until the last of August. It isn't a quarrel with the State printers, it is simply asking the authorities to furnish this volume of valuable information when it is most needed and when its information will be the most valuable.

In closing I wish again to call attention to the cordial relations existing between the society and other agricultural organizations in the State. This is as it should be, for there is only the greatest progress when there is harmonious action all along the line.

D. H. KNOWLTON,
Secretary.

OFFICERS FOR 1905.

President.

Z. A. GILBERT, North Greene.

Vice Presidents.

D. P. TRUE, Leeds Center.

EDWARD L. WHITE, Bowdoinham.

Secretary.

D. H. KNOWLTON, Farmington.

Executive Committee.

President and Secretary, *ex-officio*; V. P. DeCoster, Buckfield; C. A. Arnold, Arnold; * R. H. Libbey, Newport.

Trustees.

Androscoggin county, A. C. Day, South Turner.

Aroostook county, John W. Dudley, Mapleton.

Cumberland county, John W. True, New Gloucester.

Franklin county, E. F. Purington, Farmington.

Hancock county, E. W. Wooster, Hancock.

Kennebec county, E. A. Lapham, Pittston.

Knox county, Alonzo Butler, Union.

Lincoln county, H. J. A. Simmons, Waldoboro.

Oxford county, J. A. Roberts, Norway.

Penobscot county, A. A. Eastman, Dexter.

Piscataquis county, Will E. Leland, East Sangerville.

Sagadahoc county, A. P. Ring, Richmond Corner.

Somerset county, Frank E. Nowell, Fairfield.

Waldo county, Fred Atwood, Winterport.

Washington county, D. W. Campbell, Cherryfield.

York county, C. A. Hooper, Eliot.

Auditor.

DR. GEO. M. TWITCHELL, Augusta.

Member of Experiment Station Council.

CHARLES S. POPE, Manchester.

* Deceased. Will E. Leland, East Sangerville, chosen to fill vacancy.

MEMBERS OF THE SOCIETY.

NOTE.—Any errors or changes of residence should be promptly reported to the Secretary. Members will also confer a favor by furnishing the Secretary with their full Christian names where initials only are given.

LIFE MEMBERS.

Andrews, A. Emery.....	Gardiner	Hansecom, John.....	Saco
Andrews, Charles E.....	Auburn	Harris, William M.....	Auburn
Arnold, C. A.....	Arnold	Hoyt, Mrs. Francis.....	Winthrop
Atherton, Wm. P.....	Hallowell	Jackson, F. A.....	Winthrop
Atkins, Charles G.....	Bucksport	Jones, J. H.....	Mercer
Atwood, Fred.....	Winterport	Keene, Charles S.....	Turner
Averill, David C.....	Temple	Knowlton, D. H.....	Farmington
Bailey, W. G.....	Freeport	Lapham, E. A.....	Pittston
Bennoch, John E.....	Orono	Leland, Will E.....	East Sangerville
Bickford, Lewis I.....	Dixmont Center	Lincoln, E. L.....	Wayne
Bisbee, George E.....	Auburn	Litchfield, J. H.....	Lewiston
Blanchard, Mrs. E. M.....	Lewiston	Litchfield, Mrs. L. K.....	Lewiston
Blossom, L. H.....	Turner Center	Lombard, Thurston M.....	Auburn
Boardman, Samuel L.....	Bangor	Luce, Willis A.....	Columbia Falls
Briggs, John.....	Turner	Macaulay, T. B.....	Montreal, Can.
Burr, John.....	Freeport	*Marston, Charles A.....	Skowhegan
Butler, Alonzo.....	Union	McCabe, George L.....	North Bangor
Chandler, Mrs. Lucy A.....	Freeport	McLaughlin, Henry.....	Bangor
Chase, Henry M., 103 Federal St.,	Portland	McManus, John.....	Brunswick
Corbett, Hermon.....	Farmington	Mitchell, Frederick H.....	Turner
Crowell, Mrs. Ella H.....	Skowhegan	Moody, Charles H.....	Turner
Crowell, John H.....	Farmington	Moore, William G.....	Monmouth
Cummings, Mrs. Anthony.....	Auburn	Moor, F. A.....	Waterville
Dana, Woodbury S.....	Portland	Morse, F. H.....	Waterford
Dawes, S. H.....	Harrison	Morton, J. A.....	Bethel
DeCoster, Virgil P.....	Buckfield	Mnnson, W. M.....	Orono
DeRocher, Peter.....	Bradentown, Fla.	Page, F. W.....	Auburn
Dirwanger, Joseph A.....	Portland	Palmer, George L.....	South Livermore
Dunham, W. W.....	North Paris	Parsons, Howard G.....	Turner Center
Dyer, Milton.....	Cape Elizabeth	Perley, Charles I.....	Cross Hill
Emerson, Charles L.....	South Turner	Pope, Charles S.....	Manchester
Farnsworth, B. B.....	Portland	Prince, Edward M.....	West Farmington
*Fessenden, Francis.....	Portland	Pulsifer, D. W.....	Poland
Frost, Oscar F.....	Monmouth	Purington, E. F.....	West Farmington
Gardiner, Robert H.....	Gardiner	Richards, John T.....	Gardiner
George, C. H.....	Hebron	Ricker, A. S.....	Turner
Gilbert, Z. A.....	North Greene	Roak, George M.....	Auburn
Goddard, Lewis C.....	Woodfords	Sanborn, Miss G. P.....	Angusta
Grover, Franklin D.....	Bean	Sawyer, Andrew S.....	Cape Elizabeth
Hackett, E. C.....	West Gloucester	Seavy, Mrs. G. M.....	Auburn
Hall, Mrs. H. A.....	Brewer	Simmons, H. J. A.....	Waldoboro

* Deceased.

LIFE MEMBERS—*Concluded.*

Skillings, C. W.....	North Auburn	True, Davis P.....	Leeds Center
Smith, Henry S.....	Monmouth	True, John W.....	New Gloucester
Snow, Mary S.....	Bangor	Twitcheil, Geo. M.....	Auburn
Starrett, L. F.....	Warren	Vickery, James.....	Portland
Stetson, Henry.....	Auburn	Vickery, John.....	Auburn
Stanley, O. E.....	Winthrop	Wade, Patrick.....	Portland
Stilphen, Asbury C.....	Gardiner	Walker, Charles S.....	Pera
Taylor, Miss L. L. (Lakeside)	Belgrade	Walker, Elmer V.....	Oxford
Thomas, William W.....	Portland	Waterman, Willard H.....	East Auburn
Thomas, D. S.....	North Auburn	Waugh, F. A.....	Amherst, Mass
Thurston, Edwin.....	West Farmington	Wheeler, Charles E.....	Chester ville
Tilton, William S.....	Boston, Mass.	Yeaton, Samuel F.....	West Farmington
Townsend, Mrs. B. T.....	Freeport		

ANNUAL MEMBERS, 1903.

Allen, L. L.....	Fairfield	Lord, T. Merrill.....	North Parsonsfield
Blossom, L. H.....	Turner Center	Mayo, E. R.....	Manchester
Bradley, Mertie E.....	Vienna	McAllister, Z.....	West Lovell
Breed, W. O.....	Harrison	Merchant, S. L.....	Winthrop
Campbell, D. W.....	Cherryfield	Merrill, A. L.....	North Auburn
Day, A. C.....	South Turner	Morrill, Stephen.....	Lewiston
Dingley, Mrs. P. G.....	Auburn	Nowell, F. E.....	Fairfield
Fairbanks, A. E.....	North Monmouth	Payson, H. L.....	Rockland
Fessenden, Francis.....	Portland	Phinney, C. S.....	Standish
German Kali Works.....	New York	Roberts, J. A.....	Norway
Goodale, G. C.....	Winthrop	Smith, F. W.....	Rockland
Guptill, W. T.....	Topsham	Smith, Geo. R.....	Augusta
Hall, C. G.....	Cedar Grove	Staples, Mrs. Arthur G.....	Auburn
Harding, Nathaniel.....	New Sharon	Tarr, Edward.....	Mapleton
Hathaway, W. S.....	East Auburn	Toothaker, L. P.....	Simpson's Corner
Johnson, H. E.....	Auburn	Tucker, Benjamin.....	North Norway
Jones, Mrs. Barnum.....	North Auburn	White, Edward L.....	Bowdoinham
Jordan, Ira.....	Milbridge	Whitman, H. H.....	South Turner
Leland, W. E.....	East Sangerville	Whittier, Phineas.....	Farmington Falls
Libbey, R. H.....	Newport	Willey, A. B.....	Cherryfield
Libbey, Mrs. R. H.....	Newport	Woodside, E. G.....	Lewiston

ANNUAL MEMBERS, 1904.

Allen, S. L.....	Fairfield	Lincoln, Mrs. E. L.....	Wayne
Arnold, M. F.....	Carmel	Mayo, E. R.....	Manchester
Beal, S. H.....	Skowhegan	McAllister, Z.....	West Lovell
Benson, Mrs. G. S.....	Skowhegan	Merchant, S. L.....	Winthrop
Burkett, Andrew.....	Union	Nowell, F. E.....	Fairfield
Butler, L. F.....	Madison	Sanborn, C. E.....	Skowhegan
Cole, J. E.....	Union	Sherman, Mrs. Clara E.....	Union
Daggett, E. L.....	Union	Shurtleff, S. G.....	South Livermore
Danforth, F. G.....	Skowhegan	Swan, J. A.....	Skowhegan
DeCoster, V. P.....	Buckfield	Tarr, Edward.....	Mapleton
Frost, J. H.....	188 Pearl St., Portland	Toothaker, L. P.....	Etna
Gleason, F. A.....	Union	Tucker, Benj.....	Norway
Greenleaf, A. C.....	Farmington	Warren, Henry P.....	Albany, N. Y.
Hall, Chas. G.....	Cedar Grove	Waterman, L. C.....	Buckfield
Jepson, Albert E.....	Norridgewock	White, Mrs. Charles.....	Skowhegan
Knowlton, J. B.....	Farmington	White, Edward L.....	Bowdoinham
Leland, Will E.....	East Sangerville	White, P. C.....	Skowhegan
Leafest, Mrs. F. H.....	Union	Whitman, W. C. & Son.....	South Turner

ANNUAL MEMBERS, 1905.

Abbott, S. E	Bethel	Mendell, Mrs. C. E	Hartford
Bass, Mary A	Wilton	Merchant, S. L.....	Winthrop
Berry, W. F.....	Canton	Nowell, F. E.	Fairfield
Briggs, Arthur B.....	Canton	Perley, F. B	Vassalboro
Bryant, C. A	Livermore Center	Scales, Lilla M.....	Temple
Campbell, D. W	Cherryfield	Shurtleff, S. G.....	South Livermore
Chase, Solon.....	Chase's Mills	Smith, Mrs. F. A	Canton
Craig, William.....	Auburn	Spaulding, Stephen	North Buckfield
DeCoster, Mrs. V. P.....	Buckfield	Staples, George W.....	Temple
Ellis, Mrs. Kate B	Fairfield	Stetson, T. B. W	Canton
Fairbanks, A. E.....	North Monmouth	Toothaker, L. P.....	Etna
Goodale, G. C	Winthrop	Tucker, Benjamin	North Norway
Greenleaf, A. C	Farmington	Virgin, G. H	Canton
Hardy, E. E	Farmington	Virgin, Mrs. G. H.....	Canton
Hitchings, E. F.....	Waterville	Walker, Mrs. F. L	Canton
Leland, Will E.....	East Sangerville	Wallingford, John....	Auburn
Lincoln, Mrs. E. L.....	Wayne	Washburn, C. C	Mechanic Falls
Mayo, E. R.....	Hallowell	White, Edward L	Bowdoinham
McLatchey, R. E ..	46 Clinton St., Boston	Whittemore, F. H	Livermore Falls

REPORT OF THE EXECUTIVE COMMITTEE.

The general work of the society is shown by this volume of Transactions, and the various reports published by the newspapers of the State. A summary of receipts and expenditures and a statement of resources and liabilities make the following financial showing for the year:

RECEIPTS.

Balance in treasury, Jan. 1, 1905.....	\$90 11
State stipend	1,000 00
Interest on permanent fund.....	90 34
Life members	50 00
Annual members for 1904.....	7 00
Annual members for 1905.....	38 00
Sale of report.....	1 00
Dividend on bank stock in liquidation.....	12 00
<hr/>	
Total receipts	\$1,288 45

EXPENDITURES.

Debt of 1904 in full.....	\$550 00
Executive committee, travel and expense.....	99 23
Treasurer, travel and expense.....	6 50
Speakers	16 98
Judges	3 45
Postage	15 00
Premiums paid	297 25
Annual meeting	6 19
Stenographer	47 85
Binding Transactions	28 40
Hotel bills of officers and speakers.....	106 15
Salary of Secretary in part.....	50 00
Cash in treasury, Jan. 1, 1906.....	61 45
<hr/>	
Total expenditures	\$1,288 45

ORDERS DRAWN AND NOT PAID.

Salary of Secretary, balance for 1905.....	\$100 00
Salary of Treasurer for 1905.....	25 00
Printing and stationery	55 97
	<hr/>
Total	\$180 97

RESOURCES.

Cash in treasury.....	\$61 45
Due from State.....	1,000 00
Permanent fund	1,510 00
	<hr/>
	\$2,571 45

LIABILITIES.

Outstanding orders	\$180 97
Due permanent fund.....	50 00
	<hr/>
	\$230 97
Resources in excess of liabilities.....	2,340 48
	<hr/>
	\$2,571 45

PERMANENT FUND.

Invested as shown by the Treasurer's report.....	\$1,510 00
Due from Society.....	50 00
	<hr/>
	\$1,560 00

All of which is respectfully submitted.

Z. A. GILBERT,
D. H. KNOWLTON,
V. P. DECOSTER,
C. A. ARNOLD,
WILL E. LELAND,

Executive Committee.

Augusta, January 19, 1906.

REPORT OF TREASURER.

Ellis L. Lincoln, Treasurer, in account with the Maine State Pomological Society for the Year 1905.

1905	RECEIPTS.	
January 12, received from Chas. S. Pope, Treasurer for 1904..	\$80 11	
January 14, received from Farmington National Bank, interest on stock	12 00	
April 11, received from State stipend.....	1,000 00	
June 17, received from Chas. S. Pope, 1904.....	10 00	
June 17, received from Chas. S. Pope annual membership fee not credited for 1904.....	7 00	
July 14, received from Farmington National Bank interest on stock	12 00	
September 2, received from bound volume Transaction.....	1 00	
September 2, received from William Craig, Auburn, member- ship fee	1 00	
November 2, received from Livermore Falls Trust and Bank- ing Company, interest on certificate of deposit.....	7 00	
November 2, received from S. G. Shurtleff, South Livermore, membership fee	1 00	
November 17, received from Kate B. Ellis, Fairfield, for annual membership fee	1 00	
Received from D. H. Knowlton for four life members ten dollars each as follows: F. H. Morse, Waterford; Geo. L. Palmer, So. Liver- more; V. P. DeCoster, Buckfield; Will E. Leland	40 00	
Also from D. H. Knowlton for 16 annual mem- bers one dollars each, as follows: F. E. Nowell, Fairfield; Edward L. White, Bowdoin- ham; R. E. McLatchey, 46 Clinton St., Boston; Stephen Spaulding, No. Buckfield; F. H. Whittemore, Livermore Falls; E. E. Hardy, Farmington; F. B. Perley, Vassalboro; S. E. Abbott, Bethel; C. C. Washburn, Mechanic Falls; Mary A. Bass, Wilton; Lilla M. Scales, Temple; Solon Chase, Chase's Mills; E. F. Hitchings, Waterville; Will E. Leland, East Sangerville; Mrs. V. P. DeCoster, Buckfield; Benjamin Tucker, North Norway.....	16 00	
December 6, received from the Merchants' National Bank, Gar- diner, 4th dividend in liquidation.....	12 00	

December 20, received from W. F. Berry, Canton, membership fee	\$1 00
Received from Arthur B. Briggs, Canton, membership fee	1 00
Received from C. A. Bryant, Livermore Center, membership fee	1 00
Received from D. W. Campbell, Cherryfield, membership fee	1 00
Received from A. E. Fairbanks, North Monmouth, membership fee.....	1 00
Received from G. C. Goodell, Winthrop, membership fee	1 00
Received from A. C. Greenleaf, Farmington, membership fee	1 00
Received from Mrs. E. L. Lincoln, Wayne, membership fee	1 00
Received from E. R. Mayo, Manchester, membership fee	1 00
Received from Mrs. C. E. Mendall, Hartford, membership fee	1 00
Received from S. L. Merchant, Winthrop, membership fee	1 00
Received from Mrs. F. A. Smith, Canton, membership fee	1 00
Received from Geo. W. Staples, Temple, membership fee	1 00
Received from B. W. Stetson, Canton, membership fee	1 00
Received from L. P. Toothaker, Etna, membership fee	1 00
Received from G. H. Virgin, Canton Point, membership fee	1 00
Received from Mrs. G. H. Virgin, Canton Point, membership fee	1 00
Received from Mrs. F. L. Walker, Canton Point, membership fee	1 00
Received from John Wallingford, Auburn, membership fee	1 00
Received from J. H. Jones, Mercer, life membership fee	10 00
December 31, received from Augusta Trust Co., interest.....	38 17
December 31, received from Augusta Savings Bank, interest..	21 17
Total	<u>\$1,288 45</u>

EXPENDITURES.

January 13, paid Cony House, expenses at Augusta.....	\$23 00
Paid Z. A. Gilbert, expense as President.....	75
Paid E. L. Lincoln, expense at Augusta.....	3 00
January 19, paid D. H. Knowlton, expense at Augusta as Secretary	6 72
Paid R. H. Libbey, expense at Augusta.....	2 50
Paid V. P. DeCoster, expense at Augusta.....	4 80
Paid C. A. Arnold, expense at Augusta.....	3 00
April 25, deposit Augusta Trust Co., Winthrop, to credit of permanent fund	200 00
Deposit in Augusta Savings Bank to credit of permanent fund	350 00

September 4, paid D. H. Knowlton, postage and Secretary expense	\$29 79
Paid V. P. DeCoster, expenses, postage, executive committee	8 70
Paid Z. A. Gilbert, expense as President.....	8 85
September 11, Paid D. H. Knowlton, on account of salary as Secretary for 1905.....	50 00
November 17, paid W. E. Dresser, for board of officers and speakers	\$3 15
Paid Kate B. Ellis, for expense as speaker at Canton	3 28
Paid E. L. Lincoln, expense at Canton.....	3 50
Paid D. H. Knowlton, expense as Secretary, postage, etc., Canton.....	27 25
Paid W. M. Munson, expense at Canton meeting	7 55
Paid A. F. Russell, service and expense at Canton	6 19
Paid W. E. Leland, travel and expense as executive committee	5 59
Paid C. A. Arnold, expense as executive committee, Canton	8 28
Paid V. P. DeCoster, expense as executive committee, Canton	8 00
Paid Miss Mary A. Bass, travel and service at Canton	1 85
Paid Miss Lilla M. Scales, expense as speaker at Canton	1 85
Paid John W. True, expense as judge at Canton	1 45
Paid F. H. Morse, expense at Canton meeting..	2 45
Paid S. G. Shurtleff, service as judge at Canton	2 00
December 20, Paid E. L. Lincoln, Treasurer, premiums awarded at Canton	297 25
December 31, Paid Miss L. B. Raynes, service as stenographer at Canton	47 85
Paid Smith & Reid, binding Transactions.....	28 40
	<hr/>
	\$1,227 00
Cash in treasury, Jan. 1, 1906.....	61 45
Total	<hr/>
	\$1,288 45

PERMANENT FUND.

151 life members' fees as reported for 1904.....	\$1,510 00
Fees received in 1905:	
F. H. Morse.....	\$10 00
George L. Palmer.....	10 00
Virgil P. DeCoster.....	10 00
Will E. Leland.....	10 00
J. H. Jones.....	10 00
	<hr/>
	50 00
	<hr/>
	\$1,560 00
Invested as follows:	
Four shares First National Bank of Farmington...	\$400 00
Deposit in Augusta Savings Bank.....	610 00
Deposit in Augusta Trust Company.....	500 00
Due for the Society.....	50 00
	<hr/>
	\$1,560 00

ELLIS L. LINCOLN, Treasurer.

BUSINESS TRANSACTIONS.

MEETINGS OF EXECUTIVE COMMITTEE.

AUGUSTA, January 12, 1905.

Approved bond presented by E. L. Lincoln, Treasurer for 1905.

Voted, That the Treasurer for 1905 be instructed to pay the Society's debt to the permanent fund when the stipend from the State shall be received.

Voted, That the Secretary, if he finds conditions favorable, is authorized to call a field meeting of the Society at such time and place as may seem advisable.

Revised schedule of premiums for 1905.

Voted to instruct Secretary to have 1500 schedules of premiums printed.

NEW GLOUCESTER, August 30, 1905.

The death of our associate, R. H. Libbey, was formally announced to the Committee, and it was resolved: That Dr. Geo. M. Twitchell in behalf of the Committee and Society be invited to prepare and present at our next annual meeting a memorial of our deceased associate.

Voted, To instruct the Secretary to have fifty copies of Transactions bound in cloth for exchange with other societies, etc.

Voted, That the place for holding the annual meeting be referred to Messrs. Gilbert and DeCoster with authority to locate, during week of November 13th.

Voted, That the preparation of programme be referred to the President and Secretary.

Voted, That Will E. Leland of East Sangerville be invited to fill position made vacant by death of R. H. Libbey.

Voted, That Mr. Gilbert be requested to arrange for judges of fruit at annual exhibition.

CANTON, November 14, 1905.

Mr. Will E. Leland, having accepted the position tendered him at the last meeting, was present to act with other members of the Committee.

Mr. Gilbert announced the following judges for the exhibition: S. G. Shurtleff on collections of apples; John W. True on single varieties of apples; Mrs. Dennison and Chas. S. Pope on canned goods and flowers; Prof. W. M. Munson on pears.

Mr. Gilbert announced that he had received information of his brother's death, in consequence of which he should be obliged to return home in the morning. Mr. Edward L. White was asked to read the annual address of the President in consequence of Mr. Gilbert's absence.

ORCHARD MEETING.

By invitation of John W. True, an orchard meeting was held at his beautiful home in New Gloucester, August 31, 1905. Mr. True met all who came by train at the station with teams and took them to his home, and in due time returned them to the station.

The officers and many others were hospitably entertained by Mr. and Mrs. True. Further reference is made to this meeting in the Secretary's report, and a review of the meeting and the lessons taught by it were reviewed and discussed at the annual meeting, to which reference is here made.

As an expression of thanks for the numerous courtesies of the day, Prof. Munson proposed three cheers for Mr. and Mrs. True and their households, and the cheers were given with a will.

ANNUAL MEETING.

By invitation of Canton Grange the annual meeting and exhibition of the Society were held in their commodious halls in Canton, November 14-16. The 14th was devoted to perfecting the exhibition, which was held in the lower hall of the

building. Although the exhibition was somewhat crowded, a very attractive display was made. The quality of the fruit shown was excellent and the display was very effective.

The programme for the 15th and 16th was as follows:

WEDNESDAY, OPENING SESSION AT 11 A. M.—Prayer, Rev. Marcia Selman, Canton; address of welcome, W. W. Blanchard, Canton; response, Prof. W. M. Munson, Orono; President's annual address, Hon. Z. A. Gilbert, Greene.

WEDNESDAY AFTERNOON—Our Insect Troubles. At the last annual meeting of the society it was voted—That a committee be appointed to urge upon the Legislature the imperative necessity of enacting stringent laws for the protection of the fruit interests of the State, and from the brown-tail moth and other noxious insect pests and fungous diseases, and to represent the society in securing the desired legislation. Report of committee, Z. A. Gilbert, Greene; What the Agricultural Department Has Done, and the Present Situation, Prof. E. F. Hitchings, State Entomologist; What More Can the Society Do? D. H. Knowlton, Farmington; Report of the Committee on New Fruits, Prof. W. M. Munson, Orono. At the last annual meeting it was voted: That a standing committee on new fruits be established, and that it shall be the duty of this committee to examine into the merits of new varieties of fruit offered for sale in the State, or which seem likely to be of value to Maine growers, and that this committee shall report at each annual meeting.

WEDNESDAY EVENING—Music. Storage of Fruit. The following recommendation was made and approved at the last annual meeting and referred to the Executive Committee—That a committee be appointed to look into the matter of cooperative storage and marketing, suggest plans, make specifications for storage houses, learn what is actually being done in other states and report at the next annual meeting of the society. Recommended further, that one session of the next annual meeting be devoted solely to the discussion of this very important subject. As forming a part of their report upon the subject the Executive Committee have arranged the following programme for this session: Home Storage Results, F. H. Morse, Waterford; music; Cooperative Storage, and the Operation of the

Fruit-Marks Act in Canada, William Craig, (formerly of Canada), Auburn. Full opportunity for discussion will be given. The following recommendation was passed at the last annual meeting: Recommended that a committee be appointed to consider the feasibility of legislation regarding the grading, marking and inspection of fruit along the line followed in Canada and in sister states and report at the next meeting. Report on above, Dr. Geo. M. Twitchell. Music.

THURSDAY FORENOON—Annual Meeting: Report of Treasurer, E. L. Lincoln, Wayne; report of Secretary, D. H. Knowlton, Farmington; report of the Executive Committee. At the last annual meeting of the society the following recommendation was adopted and referred to the Executive Committee: First—That in the judgment of this society the factor of quality in fruit should be given more prominence. That in the exhibitions held by this society, the intrinsic merit of the varieties shown shall be given weight rather than mere number of sorts in the exhibit or the display of color only. Recommended further, that the influence of the members of this society be used in the same direction, in the various fairs and fruit exhibits in the State. Second—That a committee be appointed to confer with the officers of the various agricultural societies of the State with a view to putting fruit and flowers upon a more satisfactory basis upon the premium list. Election of officers for 1906. Memorial of Richard H. Libbey, deceased member of the Executive Committee, Dr. Geo. M. Twitchell, Report of Committee on "Fruit Packages," E. L. Lincoln, L. H. Blossom, Chas. S. Pope, committee. The following recommendation was passed at the last annual meeting of the society: That a committee be appointed to study the requirements of foreign markets with reference to size and style of packages and methods of shipment, and report at the next annual meeting. Recommended further, that this committee shall suggest the most practical size and style of package for endorsement by this society.

THURSDAY AFTERNOON—Our Orchard Meeting: The Place Where It Was Held and What Its Proprietor Has Accomplished, John W. True, New Gloucester; Lessons Learned at the Orchard Meeting, Edward L. White, Bowdoinham; Results of Fertilizing and Cultivating, V. P. DeCoster, Buck-

field; Experiments in Orchard Fertilizing, Prof. W. M. Munson, Maine Experiment Station.

THURSDAY EVENING—Ladies' Night. Music; A Woman's Work in Fruit-Growing, Miss Lilla M. Scales, Temple; A Woman's Work in Orcharding, Mary Augusta Bass, Wilton; music; A Woman's Work in Beautifying the Home, Mrs. Kate B. Ellis, Fairfield; music.

Excellent music was furnished by the young ladies of Canton.

BUSINESS MEETING.

The Treasurer and Secretary presented their reports and they were accepted.

On the oral report of the Executive Committee, made by the Secretary, it was voted to appoint a committee to formulate an exhibition rule regarding the quality of exhibition fruit. The following committee was appointed: William Craig, Prof. W. M. Munson, Charles E. Wheeler.

Charles E. Wheeler, J. W. True and Alonzo Butler were appointed as a committee to distribute, collect and count ballots.

Voted and by major vote made choice of the following officers for 1906:

President—Z. A. Gilbert, North Greene.

Vice Presidents—D. P. True, Leeds Center; Edward L. White, Bowdoinham.

Secretary—D. H. Knowlton, Farmington.

Treasurer—E. L. Lincoln, Wayne.

Member of Executive Committee for two years—Will E. Leland, East Sangerville; member for three years, V. P. DeCoster, Buckfield.

Auditor—Dr. George M. Twitchell, Auburn.

Trustees—Androscoggin county, A. C. Day, Turner Center; Aroostook county, John W. Dudley, Mapleton; Cumberland county, John W. True, New Gloucester; Franklin county, E. E. Hardy, Farmington; Hancock county, E. W. Wooster, Hancock; Kennebec county, F. B. Perley, Vassalboro; Knox county, Alonzo Butler, Union; Lincoln county, H. J. A. Simmons, Waldoboro; Oxford county, J. A. Roberts, Norway; Penobscot county, W. M. Munson, Orono; Piscataquis county, C. C. Dunham, Foxcroft; Sagadahoc county, A. P. Ring, Rich-

mond; Somerset county, Frank E. Nowell, Fairfield; Waldo county, Fred Atwood, Winterport; Washington county, D. W. Campbell, Cherryfield; York county, J. Merrill Lord, Parsonsfield.

Member of Experiment Station Council—Charles S. Pope, Manchester.

On motion made by Prof. W. M. Munson it was voted that the Secretary be requested to provide for one session of the next annual meeting a round table discussion on the topic—"How can the meetings and exhibits of the Society be made of the greatest educational value?"

The memorial of Richard H. Libbey, prepared by Dr. George M. Twitchell, was read by Mrs. V. P. DeCoster, and it was *voted*, that these resolutions be accepted and placed on record, and that a copy also be sent to our Sister Libbey.

(For memorial see Secretary's Portfolio).

Voted, That the President's address be referred to a committee for consideration and report to the Society. Prof. W. M. Munson, A. S. Ricker and F. H. Morse were appointed as said committee.

Later the committee offered the following report and it was accepted:

President Gilbert made a personal investigation and found almost without exception that this year's crop of fruit came from trees recently cultivated or fertilized, or which bore lightly last year. In accordance with this suggestion, which is in line with the observation of other growers, your committee would urge upon the Society, and upon the fruit-growers of Maine, the importance of better care and management of orchard trees. This work of improvement must be commenced immediately on the opening of the spring season if a crop of fruit is to be obtained for the next "off" year.

Your committee would commend the effective work of the President and Secretary in securing legislation looking toward the control of injurious insects, and would endorse most heartily the efficient work of the Commissioner of Agriculture and the State Entomologist in carrying out the provisions of the law. The continuance of this work is urged, and the cooperation of the Society for the future is bespoken.

It is recommended that the action of the President in bringing to the attention of the Governor and Council the importance of an early publication of the Society's Transactions be endorsed.

It is further recommended that the Society instruct its officers to prepare their respective reports and use their influence in securing the publication of the same and of the full volume of the Agriculture of Maine at the earliest possible date every year.

W. M. MUNSON,
A. S. RICKER,
F. H. MORSE.

Committee.

Charles E. Wheeler, John Wallingford and Alonzo Butler were appointed as a committee on resolutions, and at the last session of the meeting offered the following resolutions, which were accepted:

Resolved, That the thanks of the Society are hereby extended to the Portland and Rumford Falls and Maine Central Railroads for reduced rates, and to the proprietor of the Revere House for the excellent service and low rates.

Resolved, That this Society express its thanks to Canton Grange for the use of their hall during this annual session.

Resolved, That our thanks be extended to Mr. S. F. Russell and the citizens of Canton, and especially the friends who furnished music, for their cooperation in making this session a success.

Resolved, That particular mention should be made of the exhibits of fruit and chrysanthemums by Prof. Munson.

CHARLES E. WHEELER,
JOHN WALLINGFORD,
ALONZO BUTLER,

Committee.

Canton, November 16, 1905.

Dr. George M. Twitchell reported on the following passed at the last annual meeting: "Recommended that a committee be appointed to consider the feasibility of legislation regarding the grading, marking and inspection of fruit along the line followed in Canada and in sister states and report at the next meeting," and offered the following resolution, which was accepted:

Resolved, That this Society, recognizing the substantial growth of our fruit industry and realizing the necessity for a more critical grading of the stock, for the protection of the grower, declares in favor of national legislation looking to a Fruit Marks Act, and authorizes the appointment of a committee whose duty it shall be to correspond with the officers of the Fruit Growers' Associations in the several states, and if a general sentiment is found favoring such action to arrange a conference for the purpose of outlining national legislation, said committee to be authorized to expend a sum not to exceed fifty dollars for postage and necessary printing and expenses, a full report to be made at the next annual session of this Society.

Mr. E. L. Lincoln in behalf of the Committee on Fruit Packages offered the following resolution:

Resolved, That this Society recommend the adoption of a Maine standard apple box of the capacity of one bushel, with the following inside dimensions: length, 21 inches; depth, 11 inches; width, 10 inches.

Voted, To refer back to the same committee the question of the size of package to be adopted, and further that this committee be instructed to, if possible, agree with representatives of other New England and New York Associations as to the size of box to be adopted by all societies, and report at the next meeting.

Committee on Exhibition Rules reported as follows, and it was accepted:

Voted, That no wormy, spotted or otherwise defective fruit be granted a premium by this Society.

Voted, That the Executive Committee be instructed and authorized to employ a competent assistant to aid in perfecting the exhibition.



General apple exhibit by counties at Maine Pomological Society, 1905, at Canton. Photograph by courtesy of Mr. G. C. Sevey of New England Homestead.

PAPERS, ADDRESSES AND DISCUSSIONS OFFERED
AT VARIOUS MEETINGS OF THE SOCIETY.

ANNUAL INVOCATION.

By REV. MARCIA SELMAN of Canton.

Our Father who art in Heaven, maker of all created things, we bow in thy presence with submission as we ask thy blessing upon this gathering. We thank thee that thou has made this earth such a goodly place for our habitation and that thy presence is so universally present in it, that every inch of its surface is quick with the germs of intelligence and of life. We thank thee that even what seems to be decay and death is made under thy wise laws to minister to the upspringing of new life. We thank thee that thou hast made the very soil on which we tread to bring forth that which is beautiful and bountiful to minister to our comfort and our joy.

And we thank thee that thou has so blessed man with intelligent thought, that thou hast enabled him to tread thy path throughout the universe and to think thy thoughts after thee. Thou hast extended even to him thine own great divine prerogative of creator, and hast made him able by finding out and following thy laws to bring new life into existence.

We come to ask thy blessing upon our gathering together--and yet it is not so much that, our Father, as to ask thee to remind us that thou art blessing us now and all the time; that the efforts of such societies as these are being continually blessed by thee under thy wise laws; that thou hast blessed our efforts in the past, that thou art blessing them in the present, that thou wilt bless them in the future; that everywhere, where man comes in contact with nature and learns her laws and applies them, there he comes, wittingly or unwittingly, into contact with thyself, and there he becomes, knowingly or

unknowingly, a very co-operator with the great God of the universe.

We thank thee, our Father, that this Society meets in the interests of a peaceful project; that whereas in this place and in that place among the councils of men, men are gathered together to learn to study the arts of war, the engines of destruction, gathered together to carry forth those projects which are to bring devastation upon the land, that here and there, as in this place, there are men and women, intelligent, thoughtful, Christian men and women, who are gathered together to cultivate the land, to bless homes instead of destroying them, to glorify them by making the earth bring forth and bud and blossom as the rose.

Bless, we pray thee, the sessions of this Society. Bless the speakers that they may speak out of the wisdom of their hearts and communicate to us that divine wisdom. Bless us that we may go forth and learn new things, of which thy universe is full, for our further blessing.

And we pray this morning while we assemble together in fellowship and in brotherhood, that thy blessing may go as our thought goes out to him, the President of this Association, who has been called away from our midst by a sad message of bereavement. Let the comfort of thy Spirit, the sustaining comfort of God's presence be with him, we pray thee, and with us all, as we remember and as we are reminded from time to time that however we may strive and endeavor and plan, yet after all the issues of life and death are in God's hands, and being there they are safe.

So help us to wait upon thee that the sessions of these meetings may glorify thee, may exemplify thy wisdom and thy truth. Bless the homes here represented. Bless all the efforts of these men and women to their satisfaction and to thy glory. We ask it in the name of the great husbandman of souls, the Lord Jesus Christ. Amen.

ADDRESS OF WELCOME.

W. W. BLANCHARD, of Canton.

I feel the honor conferred upon me of welcoming you this morning, and as a citizen I recognize the fact that we should be deeply grateful, in addition to the hospitable feeling of welcome, as we realize what your Society has done,—as we appreciate the end toward which your labors are directed.

It is with pleasure that we look back over the past; it is with a certain disappointment that we note the fact that the achievements along the peculiar lines have been attended by difficulty. The work of the husbandman has been for many ages considered a laborious, hard, unsatisfactory toil. It has been thought that a person, no matter how illy equipped and insufficient he was for other fields of labor, could as a husbandman, as a tiller of the soil, as a cultivator of fruit, make a success. But the very fact is, as our name teaches us, today those fields of labor have their peculiar sciences and arts. And as we recognize what has been accomplished along these lines today, our hearts swell with appreciation, and we are glad to welcome you in our midst, as we realize that your coming means good to us. It means advancement to us. It means the taking on of new stimulus, the infusion of new energy into our work. It means education as well. Today we have no class of men and women more studious, it seems to me, than the classes represented in these fields of labor that bring us together upon this occasion. It is true that their work is more laborious and the fields are new. When our forefathers came here this land was covered with forests. They were subdued. Those giant monuments of nature have crumbled and passed away, and today we stand, with vigorous bodies, as patrons of husbandry, as cultivators, developers of the science of fruit raising and horticulture, to subdue and contend with forces that have impeded the advance of progress all the time.

Now today we are glad that you are here. It is certainly a revolution and evolution, a step in advance, as we see the intel-

ligence present. And perhaps the greatest, the highest avocations of life open to us along these lines, and we trust that we may be able mutually to profit by this Association. We certainly appreciate the fact that to us will be brought new ideas; truth will be given to us which we never have appreciated before. Thank you for it. And to such hospitalities as we have, we welcome you gladly, realizing that we are the ones that receive the benefit, not you.

RESPONSE.

By PROF. W. M. MUNSON.

It is with the greatest of pleasure that I respond to the very cordial words of welcome which have been extended to us. It is an honor to me, as a member of this Society, to be chosen as its mouth-piece. I consider it as a special honor because of the standing of the Society, because of what the Society represents.

As Mr. Blanchard has just indicated, the Society stands for education; it stands for the motive to which personally I have devoted my life; and for that reason I take a double interest in it, responding not only in behalf of the Society, but in my own behalf and in behalf of the institution with which it is my fortune to be connected. For all of the agencies of the State which tend to better the condition of agricultural workers are and should be working together. The Pomological Society, the University, the State Commissioner of Agriculture with his numerous helpers, and the agricultural press of the State all combine to elevate Maine's agricultural conditions, combine to bring before the people of the world the fact that right here in New England we have conditions which are adapted specially to certain phases of agricultural work. And not the least important of those phases is that which is represented by the Maine State Pomological Society.

Now what does this Maine State Pomological Society stand for? We have already said it stands for education. It also stands for the great fruit interest of the State. But it stands for more. It stands for better men and women. It stands for

better boys and girls. It stands for better homes in the State of Maine. What, let me ask, do the great farms of the West, or even of our own State, amount to if they stand simply for providing a little more bread and butter? if they stand for the motive of the Western farmer, of raising a little more corn to raise a few more hogs to get a few more dollars to raise a little more corn? I say they stand for better homes; and it is the home spirit, the home life of New England, which we are aiming to foster.

Now this home life can in no better way be encouraged than by providing attractive surroundings for our boys and girls. I mean attractive surroundings in the way of home buildings, of home grounds, of well-kept roadsides. But that is not all. When our boys and girls go to the schools, to the academy, to the normal schools, there they want also to see attractive surroundings, they want also to come in touch with the spirit of country life. While I didn't intend to say anything about the normal schools at this time, I can't forbear saying that I hope every man and every woman here will see that in the near future our normal schools not only are willing, but are anxious, but they must provide such instruction that our teachers who go out into the country schools shall be fitted to teach country children. The trouble with so many of our country schools at the present time is that the children are taught by pupils of the high school, teachers that know absolutely nothing of country life, and then we wonder why our boys and girls are educated away from the farm. This then is one of the things for which the Maine State Pomological Society stands, the betterment of the country homes and the elevation of everything pertaining to country life.

The Society stands for better fruit and more of it. Now that is saying a good deal in view of the exhibit that you have downstairs at the present time. But, as I have said, there is not a section of the country so well adapted to the particular interest mentioned, that of producing fine fruit, especially fine apples, as this particular corner of New England; and we have not only our local markets but the foreign markets right at our door. Now what we want to do is to control these markets, by producing the best and putting it upon the market in the best shape. That, friends, is one of the important lessons which

we are to study with you here at the meeting in Canton at this time. We believe in better care of our orchards, in better care of the soil and in better care of the trees. We believe in better feeding; we believe in better packing; we believe in better grading; we believe in better packages; and we believe in providing facilities for storage of the fruit until such times as the market shall meet our ideas as to the value of that fruit. These also are lessons which we hope to study with you, and ask you to give us the benefit of your thought and of your experience, that we may receive mutual benefit, and may look back upon the meeting at Canton as one of the most successful in the history of the Society.

Friends, again, in behalf of the Society, I thank you for the very cordial welcome which has been extended, and urge upon the people of the vicinity constant attendance upon the meetings and free participation in the exercises of every meeting.

ANNUAL ADDRESS.

By Hon. Z. A. GILBERT, Greene, President of Maine State Pomological Society.

Another succession of the rounds of the seasons brings the State Pomological Society again to its convention and exhibition—the annual celebration of the fruitage of the year. While congratulations over any marked bounty along the lines of our chosen specialty might at this meeting be out of order, yet, as with every returning year, cause for thanksgiving in many lines of fruit growers' efforts have been such as to bring forth feelings of gladness and of encouragement in the pursuit of the line of effort our Society is organized to encourage and promote.

As is the case in almost every passing year of experience in the growing of fruit, there has been success in full measure with the labors of some growers, and failure quite as plainly marked with others. To study these varying degrees of experience is quite as necessary to success in the business as is knowledge acquired from other sources. These lessons cannot be learned from books, nor are they found in recorded scientific treatises. They must be learned by the individual who plants his own vine, prunes his own trees and watches the results of his own labors

through the advancing season up to the rewards of the harvest. To bring together this knowledge and put it in form to aid each other is the object that has invited the fruit growers of our State to assemble here at this time.

Each passing year brings its special lesson. This past year a record has been so plainly written that no one can fail to read it aright. Apples are our leading commercial fruit. The past season has not been generally a fruitful one. Some trees and some orchards have rewarded their owners with a reasonably good crop of fruit. Many other trees and most other orchards have given but little fruit. There is a reason for this. The books do not show the reason for this—it is written nowhere else but on the trees.

Your president has taken the time the past autumn to look around among the orchards over a wide territory of the leading apple producing portion of our State for the express purpose of making observations on the apple crop. In every direction, in every orchard without an exception, and almost with every tree the lesson was plain. The apples of the year were on orchards under cultivation and on trees that had recently been liberally fertilized, or in a few cases in orchards that bore lightly the year before. More fertilization and better treatment of trees was written all over the orchards of the State the past season, and so plainly that there can be no overlooking the lesson. This Society has before called attention to this crying want of the orchards of the State. If the barren trees and the dead branches of the orchards would but force the attention of owners to active efforts for the remedy, a liberal compensation for the loss of the crop would then be realized. A large part of the orchards of the State, especially the trees that have been some time in bearing, are hungry for the food with which to nourish a generous fruitage. It is time this lesson was taken home by every grower in its full importance. It is the one great demand calling for attention by growers ahead of every other. The growing of fruit in the off years is where the supply comes from when most wanted, and where the money is made by those who are wise enough to grow the needed supply.

There are two ways through which the supply of fertilizing material needed to promote the fruitage of trees may be provided. One is by cultivation. This serves to destroy the grass and other vegetable growth around and about the tree, thus

leaving the full strength of the soil and its contents for the support of the trees. It also sets free each year a measure of the elements of fertility contained in the soil and gives it up to the use of the tree for the growth of fruit. The importance of this method of treatment for orchards has heretofore been pressed to the attention of fruit growers by our Society and is already bearing results. It is not claimed that cultivation alone will for all time be sufficient for the full wants of trees. That it will do much towards it is evidenced the past year by the loaded trees wherever the cultivation has been introduced.

The other method of furnishing trees with their needed fertilization is by the application of manures to the surface of the soil without the cultivation. This is to receive attention in the program prepared for this meeting and need not take further time at this early stage of our proceedings.

Fruit growing in this State has been and now is almost entirely a branch of the mixed farming of the farm on which the orchard is located. It never will be found that fruit growing can be made the successful business it is capable of until it is made a specialty and given the time and attention its best interests require. There will be years of general bounty, like a year ago, when the profit, if indeed there is any, is small. So there will be other years, like the present, when only the well cared for trees will give a crop. Then it is that the specialist, with his trees that have received the full attention their best estate required, realizes the reward his attentive care deserved.

During the past year the entomological field has received careful attention on the part of the officers of our Society, in so far as this matter was left in their charge by the action taken at the annual meeting one year ago. The action taken by them and the results following are familiar to all. The present standing of the brown-tail moth invasion and the attitude of the State in the defense against it is a matter on which you are to be further informed during the course of this meeting. Certainly this Society deserves well to be complimented on its prompt action of a year ago on this important matter.

Your attention is invited to the fact that the transactions of this Society for the year 1904, and which embraced the proceedings of the annual meeting held in November of that year, which are made a part of the annual report of the commissioner of

agriculture, was not placed in the hands of our members till three-quarters of the present year had passed. This delay of almost a year from the time of the close of the work therein recorded detracts in a large degree from its value. The same also applies to the entire volume of "Agriculture of Maine." The change in the law made by the last legislature places the State printing in the charge of the governor and council, and thereby opens a way by which this printing can be done promptly on the opening of the year. The committee on printing of the council have this matter under arrangement at the present time. Your president has taken the liberty, in view that prompt action was called for, to suggest to that committee that a way is now open for a needed reform in this printing. I now suggest that if this movement meets the approval of this Society, that action be taken to supplement the move already made by your president and thus throw the full influence of the Society in aid of an earlier appearance of our transactions and with it the full volume of "Agriculture of Maine."

THE INSECT SITUATION IN MAINE.

At the last annual meeting of the Society it was voted, That a committee be appointed to urge upon the legislature the imperative necessity of enacting stringent laws for the protection of the fruit interests of the State, and from the brown-tail moth and other noxious insect pests and fungous diseases, and to represent the Society in securing the desired legislation.

Report of committee made by D. H. Knowlton: It is unexpected for me to speak upon this matter, but at the same time I shall take considerable pleasure in telling you the story.

You will remember, going back a little bit, a year ago last spring or towards spring the alarm was sounded that the brown-tail moth was in the State of Maine. Commissioner Gilman, President Gilbert in behalf of our Society, and several others at once appeared before the governor and council and made representations to them of the situation. The governor and council, appreciating at once what the situation was, although no appropriation was made or had been made for such purposes, instructed Mr. Gilman of the agricultural department to go

ahead and exterminate just as many of the brown-tail moths as possible. He did that work and did it well so far as that goes, and so far as I know. As the first session of the legislature afterwards was approaching, our Society last year took the matter up and after discussing it somewhat and realizing the danger from the terrible pest, resolutions were passed calling for the appointment of a committee to make such representations as might be necessary to the committee on agriculture of the legislature, and present to the legislature a bill covering the situation. The committee as appointed I will say consisted of Mr. Gilbert as chairman, myself as second on the committee, and Commissioner Gilman as third. And I can assure you that Mr. Gilman in his position was one of the most influential and active on the committee and rendered aid in every way possible.

Well, we sat down together and talked over the situation and examined more or less laws, both present and prospective, in other places, and we concluded that the only way was to resort to vigorous measures. We accordingly formulated a bill, which in substance placed the matter in the hands of the commissioner of agriculture and gave him for the purpose of carrying the work forward the sum of \$5,000 each for 1905 and 1906. That is as far as the immediate bill reaches. A little later you will have the opportunity of hearing from Prof. Hitchings who will tell you somewhat of what the department has done. The bill necessitated the appointment practically of an entomologist. Mr. Gilman, after considering the matter and discussing what was involved in it, decided that it was practically the proper thing to have a State entomologist—I don't know but that we did so in the bill—we did in substance because the work to be done there necessitated the knowledge and skill possessed by an entomologist. He arranged with Prof. Hitchings to do that work and they have carried the work forward. I won't tell what that work is because he is going to do that, I am simply telling you what this committee, which you appointed last year, has done. We were very proud of the result. We went before the committee of the legislature. They gave us a most courteous hearing, and other members of the legislature were interested in every word that was said to them individually, and when the time came for the legislature to act upon it it went through without a dissenting voice. It is something I feel very proud of, that in every instance when we have gone before the

legislature we have received the most courteous consideration. It is one of the hopeful and promising signs for the future usefulness of the Society, to say nothing about the past in which we have been so long engaged in earning the reputation which we have. I hope nothing may ever tarnish it.

WHAT THE AGRICULTURAL DEPARTMENT HAS DONE, AND THE PRESENT SITUATION.

Prof. E. F. HITCHINGS, State Entomologist.

Through the efforts of our State Pomological Society and the commissioner of agriculture, our last State legislature passed an act relative to the protection of trees, vines and shrubs from the introduction and ravages of dangerous insects and plant diseases. This act covered the inspection of all nurseries in the State, or places where trees, shrubs, vines and plants are grown or offered for sale; also to make full investigation of any locality when the presence of the brown-tail or gypsy moths or other injurious insects or plant diseases may be suspected. As soon as this act was approved, the commissioner of agriculture appointed an entomologist to take charge of the work under his supervision. Fifteen men were employed to do educational work throughout the infested sections, assisted by the entomologist at the Experiment Station, in calling the attention of the town and city officials to the fact of the existence of the evil and the great importance of a speedy campaign against it. In all cases their efforts were met more than half way, with the result that in every town visited the work of extermination was at once instituted and pushed with great vigor. In fact some of the Massachusetts papers, in commenting on the work done here, stated that if Massachusetts had shown half the wisdom and spirit that Maine had the pests would have been driven from her midst long ago.

We have realized for years that one great need of our State was a department of entomology at Augusta. The many products of our farms and forests are of too great importance to be neglected or left to the depredation of our insect enemies and plant diseases. We, as farmers and orchardists of Maine, have not as yet come to realize the importance of what seem to be minor details in our farm, garden and orchard management.

The invasion of the brown-tail moth into our State has brought very forcibly to our mind the work done in the state of Massachusetts in its campaign against the gypsy moth in the ten years from 1890 to 1900, when over a million of dollars was expended by the state besides unknown thousands by cities, towns and private individuals in their attempt to exterminate the pest. Their experience in this line at that time was of incalculable value in our campaign last spring. It was the greatest mistake that Massachusetts ever made when the state appropriation was discontinued and the dreadful pest, which had been reinforced by the brown-tail moth, a no less dreaded companion, were allowed to again overstep their bounds and rapidly spread over the adjacent territory and continue their onward march north, south, east and west. In four short years of uninterrupted freedom save by what restriction the towns were able to place upon them, the gypsy moth covered over four hundred square miles of territory. The brown-tail moth, which is a very strong flyer, had spread south into Rhode Island and Connecticut, north to the White Mountains in New Hampshire and had invaded Maine to quite an extent. • At the beginning of the present year, the people of Massachusetts were so exercised over the situation that active measures were begun to see if something could not be done to exterminate the pests before they got beyond control. Prof. L. O. Howard, entomologist at Washington, investigated the situation and reported that in his judgment it would be impossible to exterminate the pests. The members of the legislature were so wrought up over the situation that an act was drawn up and presented to the legislature asking for an appropriation of six hundred thousand dollars for the purpose of suppressing the brown-tail and gypsy moths in the state. This passed both houses, but the governor asked that it be changed so that the cities and towns where the invasion existed should be taxed for a part of the expense. This was finally done and the appropriation of three hundred thousand dollars was secured, with an additional thirty thousand for experimental purposes in endeavoring to obtain parasites from foreign countries to assist in the extermination. So that now Massachusetts has a new commission and is again active in the campaign against this evil. This should be an object lesson to us in our work against our insect enemies. The inspection of the nurseries in the State has brought to light the great need of the work to be done in

this line. In a number of them I have discovered conditions that were not safe to continue, and it has been a great source of gratification to me to see such a willingness on the part of the owners to have all objectionable conditions removed at once. Such men are outspoken in their appreciation of the work done by the department, and are only too glad to assist in every way the progress of the work.

During these inspections I have discovered other pests that were not previously known to exist in the State. The dreaded woolly aphid of the apple has been found in several localities; the most noted case was in the city of Portland where I found a tree, at least ten inches in diameter, literally alive with them, with its vitality destroyed, practically dead, and standing as a menace to the trees near by. The owner said he would have it cut and burned at once. This pest ought to have a passing notice, as it is a dangerous one to have in our midst. It is rather a peculiar insect, leading a dual existence, one form living on the fibrous roots of the tree, producing galls similar to the dreaded grape phylloxera of Europe, and as hard to combat. The other a white woolly form, found covering the limbs and trunk of the tree. An allied species is very common on the alder, and is especially abundant this season. I have seen whole alder swamps literally covered with this snow white mantle of crawling aphids. But this species will not attack the apple. If an orchard is infested by this insect, it will soon sap the vitality of the trees to such an extent that the best remedy is to cut and burn all infested trees. The root form inoculates the soil so that new trees must not be set in the same places, although pear, plum or cherry trees might be substituted with no evil effects.

The strawberry weevil has been found in several localities in the State. These are only a few of the many insect pests that have been considered during the past season. The much dreaded San Jose scale has reached Massachusetts and will soon find its way here. The gypsy moth has reached Portsmouth, N. H., and it is only a question of time when it will cross the river into Maine.

THE PRESENT SITUATION.

It is rather early yet to predict what the actual situation is as regards the brown-tail moth invasion in our State. As a result of the systematic work done last spring, hundreds of thousands of nests were taken and destroyed. This infested district

extended from Kittery on the southwest to Bar Harbor on the northeast, and so effectively was this work done that no serious complaint has come to the notice of the department from any source. This speaks volumes for the enterprise and public spirited enthusiasm of the several cities and towns along the border line. Thousands of dollars were spent and time and energy freely given in the good cause. While inspecting the nursery at Bar Harbor in August I discovered several clusters of eggs of the brown-tail moth and later in the summer and early fall I received a number of nests from there, but the authorities are wide awake to the situation and will do all in their power to rid the island of the nests during the coming winter. In Portland, where a large number of nests were taken, the situation is very encouraging. Of course we would expect that many nests would be found there, as a result of the moths coming direct from Boston by steamer and rail as heretofore.

In Kittery the situation is quite serious, as New Hampshire did practically nothing last year and the state was badly infested, so that we anticipated that this condition would prevail. Last July, during the flight of the moth, I was in Kittery to investigate the situation and found that they were coming by the thousands. The moth is a night flyer and is strongly attracted by a light. They were reported at the navy yard buildings in great numbers, and were killed by the thousands by the workmen employed on the yard. On investigation last week, I found the trees in many localities as badly infested as they were last year; but taking the territory as a whole, I have every reason to believe that the worst is over, *provided*, that a diligent watch is kept up and a vigilant campaign continued each year.

The bulletin on the brown-tail moth will soon be issued. This will give a concise account of the year's work in that line. It is earnestly desired that all possible information of any insect invasion may be sent in to the department as soon as discovered. We can then be in a position to successfully cope with all of our insect foes before they gain a strong foothold in the State. This is the only way in which we may hope to check the gypsy moth and San Jose scale.

(Shows vial containing twig with woolly aphis; twig with San Jose scale; and brown-tail moth in different stages, including nests.)

You notice the dots on the end, golden brown color, the covering of the egg cluster, right on the end of the leaf. When the moth lays the eggs they are white but while she is laying them the hairs pull out from the abdomen onto these sticky eggs and cover the whole cluster of eggs, as you will see in that little case that is being passed. And those are the caterpillars in there. They are live caterpillars and simply hibernate in that form through the winter upon the trees where you can get at them easily—it is your own fault if you don't cut them down if they are in your section,—and early in the spring they are all ready to go to work on the trees the moment the buds start enough to give them a chance to get something to eat—you must know they would be hungry after they have slept all winter. We had them crawling and eating in Portland in April last year.

I will give you a few figures. They took in the city of Portland 122,000 nests of the brown-tail moth last spring. In the banner town of the State they took about 200,000 nests, and that was all done in about six weeks' time. The banner town was the town of York. They appropriated more money than any other town—twice over what Portland did—and as a result they got the largest number of nests; but they didn't get them all. They employed men from Boston to come down and spray for the caterpillars where they didn't get the nests off. One nest overlooked last year would mean from 50 to possibly 150 nests this year.

Dr. TWITCHELL: You spoke about finding these nests and cutting them, but you did not emphasize the necessity of burning them.

Prof. HITCHINGS: I don't know as I did. Of course you want to cut and burn. I am glad that you spoke of that because we did have men last spring that thought if they cut them and let them down on the ground that that was all that was necessary. That would not hinder them very much. In an hour's time, on the first trip to Kittery I made last spring, I found them on thirteen different varieties of trees, and in many places so thick that the trees could not have leafed out possibly. I was there last week. In some places they are thicker than they were last year, for this reason: New Hampshire did nothing practically. All they have to do is to fly across the river, and that is a short distance, and the pear trees there are just loaded, not with pears but with brown-tail moth nests today.

Now I want to associate with that the gypsy moth for this reason, if the gypsy moth gets here it will be worse than the brown-tail, and there is no reason why it should not get here. And it may be here. I have investigated five different reports, two of them from Massachusetts men, one of them a superintendent of one of the parks who had charge of fourteen men working under him in the gypsy moth work, and he declared straight up and down that he saw these egg clusters in the city of Portland a year ago last March. I told him that I thought strange that with the work that we did last spring we didn't discover the gypsy moth if it was in Portland. "Well," he said, "don't you suppose I know the gypsy moth?" I said: "I don't account for that at all." I went to the superintendent and said "How long has that man been employed as superintendent of the park?" He said "A little over a year." I asked him "What did he know of the gypsy moth a year ago last March?" He said, "He probably didn't know much about it." So I came to Portland, investigated where he said they were, and it was the tussock moth. The city of Portland is overrun with another species of insect, and the superintendent of the park commission told me last week that three years ago they took twenty barrels of just the egg clusters of the tussock moth in the city of Portland, and today I think they could do the same.

We had families move down here from the infested district in Massachusetts, right where the gypsy caterpillars were crawling all over their sheds and wood-piles, come down here right in the time of the caterpillars' crawling, and move their stores with them. What do you think of that? Just as soon as it was reported of course the wood was burned. A young lady came this fall. She had a dress that she had hung away, hadn't had it on for two or three weeks. She came from there about the time the caterpillars were spinning their cocoons. She got the dress to put it on, felt a queer sensation on her arm, took it off and found one done up in the sleeve of her dress. There are lots of ways of getting them here. Now why do we dread these? Because they will eat anything—they are like goats, anything but tin cans. Our evergreen trees, if they strip them once they are dead. And so in one way we ought to dread them more than we would the brown-tail. It is true they won't spread as rapidly; but yet those of you who have visited Massachusetts know what the condition is there and how we ought to dread

them. They hibernate in the egg through the winter and that is why they will be difficult to find. The moth lays the eggs a little later than the brown-tail, but hides them away. She cannot fly. I have watched probably thousands of them to see if they could fly. I was in Massachusetts during the old commission,—I was teaching there at the time and knew something of the work there, and I have watched them many times. Before they lay their eggs they are so heavy with eggs that they cannot fly practically. I have seen them try to crawl up a tree and almost invariably they would lose ground and come down rather than ascend. They lay about five hundred eggs; and so of course they would not spread as rapidly. While these brown-tail moths might—I won't say they would, but I don't see any reason why they couldn't fly ten miles before they stopped to lay their eggs if the wind was in the right direction. So there is that difference between them. One other thing I will just mention in regard to this brown-tail moth, you have heard so much of it. Why they took such active measures in the town of York was because of the resorts there, York Beach and York Harbor, that received lots of letters from parties out of the State inquiring about the brown-tail and saying that they were going to take their summer vacation in other directions if the brown-tail was here. So the people in York realized what it would mean to them to have their summer visitors go somewhere else and they took the active measures they did. There were a number of cases though of this brown-tail itch, as it is termed. When those caterpillars reach the stage of moults, the skins that they shed,—the hairs have a property of breaking up and working under the skin if they come in contact with the body, and producing a very annoying irritation, puffing up, in many cases worse than any ivy poison, and of course that is what they dread. I know that families move out from infested districts in Massachusetts during that time of the year, and families that were not used to going away from home were obliged to on account of that.

Prof. MUNSON: One question I would like to ask Prof. Hitchings. I heard no reference made to the oyster-shell bark louse, and in some sections of the State I would ask if that is not nearly as serious a pest as the San Jose scale?

Prof. HITCHINGS: It is. I had a case reported to me. A gentleman wrote saying that his orchard was dying—his young

trees. He said he knew it must be the San Jose scale. He had shown it to a number of his neighbors and they said it must be. I wrote him I had so many engagements just then I couldn't go for a day or two—but I told him I would come—and asked him to send a twig. He sent one and it was what we term the oyster-shell bark louse—you are all, I guess, familiar with it. I saw some down stairs on the apples. They are shaped something like an oyster shell. They are small, of course, about an eighth of an inch long—one end round, one end larger than the other, and so it gets its name. They are easily treated and you ought to treat them too.

One thing I omitted to say in regard to the San Jose scale. They breed in a different manner from our ordinary insects. Suppose a tree came from New York with one female scale on it in the spring. Under that scale the female would not be quite developed when it reached here but in a short time would reach maturity, and instead of laying eggs she would give birth to young—that is, about ten. They have carefully estimated the number per day and about ten on the average per day would be born, and that would continue for forty consecutive days. There is 400 at once. Then when these little ones were about thirty days old they would give birth in the same manner. Now if you are a mathematician you might possibly estimate the number at the end of the year. It has been figured out by somebody who wanted to take the time to do it, and estimated that it would be about, in the latitude of New York where the season is a little longer than ours in Maine, three billions—three billions in the fall as the progeny of one female in the spring. So you can see whether they are a menace or not, and you can see how many times you would have a spray to kill them. Spray when they are crawling. How are you going to know when they are crawling? You would have to spray every day right through the year after a certain time almost. Of course you can fumigate by having tents to put over your trees and fumigating with hydro cyanic gas, but it would be very expensive.

WHAT MORE CAN THE SOCIETY DO?

D. H. KNOWLTON, Farmington.

Prof. Hitchings has given us a very concise and clear idea of the practical way in which the Department of Agriculture is

meeting with the issue and attempting to control, if not exterminate, the insects that are invading the State.

The question as to what the Society can do—I didn't exactly know how to put it when I formulated it, and I thought it better be put in that way because it might give an opportunity of saying whatever the occasion might seem to call for. I don't know how the Society as an organization just now can do any more than what it has done. But at the same time I do feel that the Society ought to keep the fire burning and keep the interest up all the time, so that when future action may be called for we shall be ready to meet it.

The committee, in formulating and discussing the law, thought a good deal about the appointment of some special officers, a commission or something of that kind, and we decided that we had departments enough now in the State of Maine and that it was not best for us to formulate or to organize any more. So we placed it in the hands of the Department of Agriculture. And now it appears to me, and I think it appears to every one in the State who has intelligently investigated it, that the department has faithfully done its duty, and that here at our meeting we should give some expression of approval of what the department has done.

A great deal of literature has been published in the newspapers, a great many bulletins, etc., have been sent out by the Department of Agriculture and over to the Experiment Station where, I should say, they have been equally active along this same line in their departments bearing upon the habits and the life history of the brown-tail moth. I sometimes feel that all that work has gone for naught because the thing comes to me in certain ways. To illustrate what I mean. During the month of August some one over to Mercer sent word to me something like this: "We have got them in Mercer and I wish you would tell Mr. Knowlton so." Well, he didn't bring any samples with him, and I said, "What is it you have got over there? I would like to know. Something alarming the way you spoke." "Well," he said, "Mr. So-and-so says that we have got the real thing, the real brown-tail moth." Well, I told him that was certainly a very alarming situation, I didn't realize that they were so far into the interior of the State as in the town of Mercer. I thought—I certainly hoped there must be some mistake. But he said that they had surely got them. Then I

said, "What is it about them?" Well, he talked away a little about them. He knew nothing about insects. After a little he told me what the insects were doing. Well, it happened that the State entomologist didn't get any job on that because from what little he told me about the habits of the insects I readily identified them, because only a little while before somebody nearer by had brought me some of them. They were simply the red-humped caterpillars. I judge they must be rather more numerous this year than usual. I felt somewhat chagrined that the good people over to Mercer didn't know those were not brown-tail moths.

Well, now, one thing I try to impress upon Commissioner Gilman, and every one in connection with this work is the importance of educating the people, educating the boys and girls, so they will know not only what these insects are but so that they will know what other insects are.

One thing as individuals we ought to do. In every way we ought to second the effort of the department to educate the people—boys and girls, men and women. If you have got an insect out on a tree that is troubling you, go and look at it and see what it is, and if you can't find out definitely what it is and it is making the least bit of trouble, why put it into a box and send it over to Prof. Hitchings and let him tell you what it is. And then if he tells you, try and remember it. Now we have during the year on all of our farms more or less troublesome insects. Some of them we know about. Some of them we don't. And there is an object for study. There is an object of thought. I suppose those insects were all created for some wise purpose. I suppose so—I don't know—because I can't very well call in question the wisdom of Nature's works. At the same time I can say that I have sometimes thought that these insects were just like some other things that we have—they are intended on purpose to make us work a little harder and make us fight better for a living than we should if they were not there. Sometimes it makes us stronger men and women. Sometimes when we allow them to run away with us, we don't recognize the cause perhaps, but they do us a good deal of injury. So then as individuals we want to cooperate in every way we can with the Agricultural Department. They are doing some fine work over to the State College in the Agricultural Department in educating the students who are there, in what

this thing means. I wish more might go there. They have not got half as many as they ought to have.

Now I don't know that I can emphasize what I have said any more than I have, but there is one other incident which happens to occur to me just now. I enjoyed it very much, this particular incident. Quite a number of the cecropia cocoons have been sent in to me, in one case in particular a letter was written and a postage stamp was inclosed for a reply—"What is this? Is this a brown-tail moth nest, or what is it?" It was a beautiful cocoon, a large one and a very handsome one indeed, and I took pleasure in writing back what it was. That which gave me the most pleasure was what followed. One of my neighbors has a very sweet little girl in one of the primary schools, wide awake, looking for all the good things there are in life, and she came over to my house one evening. I said to her, "Ruth, I have got something for you." Well, she looked up as bright as could be, and I asked Mrs. Knowlton, who was near it, to hand her that cocoon. The little girl looked at it with a great deal of interest and pleasure and said, "I heard something about this the other day and I didn't quite know what it was and I am glad to find out." I told her how she must take care of it, and I did a little differently from what some of the Washington city teachers do. The principal of the kindergarten school there wrote me a little while ago, and she called attention to the custom which certain teachers had of sending west and south for cecropia cocoons to use in their schools as object lessons and then giving them to the children. The children examined them, carried them home, and then instead of destroying them as they ought to, had the fun of seeing the moths emerge from the cocoons and fly away to suit themselves, and nobody knows how many sections have been cursed by the introduction of these insects, which, however beautiful they may be, are harmful to fruit trees.

Now I wish to emphasize just this—I have already said it—help the department in every way you possibly can. Seek information from them. Give them information if you can. Let us all pull together and we will hold back this plague for some years to come and I hope permanently.

REPORT OF COMMITTEE ON NEW FRUITS.

Professor W. M. MUNSON.

Since the purpose for which fruit is grown varies greatly, as do also conditions of soil, climate, market and personal choice, he is indeed a brave man, or a fool, who will attempt to give a definite and categorical reply to a question as to the relative merits of varieties. However, in these days of progress along all horticultural lines, when each year brings forth new varieties or new types of fruit specially adapted to certain local conditions, it is necessary for the progressive fruit grower to keep in touch with advance made along lines in which he is particularly concerned.

The purpose of the annual report of the committee on new fruit, as provided for at the last meeting of the society, as understood by your present committee, is to inquire into the merits of such of the new fruits as are offered for sale in the State, and also to judge carefully the new seedlings which are of local importance to the State.

Within the limit of this report it is impracticable to refer to all of the meritorious fruits of recent introduction, or even to describe the seedlings which are of local prominence and possibly worthy of future dissemination. A few of the more important must suffice.

APPLES.

Of the newer apples which have been introduced from the southwest, little can be said as yet, as very few of them have yet fruited in Maine. It may be said, however, that like the Ben Davis, most of these varieties are probably better suited to the warmer climate of Missouri and Arkansas than to our own more rigorous conditions.

After a long and bitter discussion, it is generally conceded that there is a slight difference between *Gano* and *Black Ben Davis*, but it is too early to say that either of these varieties, if they are distinct, will take a prominent place in the Maine orchards.

Sutton, which has been considered more or less at the meetings of this society, while an old variety has only recently become prominent. It is a vigorous and upright grower, hardy and

healthy under high cultivation, but it will not stand neglect. It is very doubtful if this variety can ever supplant Baldwin as a popular favorite, where the latter can be grown.

Arctic is one of the most robust of the newer varieties and is widely planted in a central part of the State. This is somewhat of the Baldwin type, though much larger, hardier, and of more vigorous habit. The variety may be described as follows: Tree very vigorous, spreading. Fruit medium, roundish-conical; greenish yellow, heavily overlaid with crimson on the sunny side, with splashes of a deeper shade and numerous lighter dots; flesh yellowish, crisp, juicy, brisk, sub-acid. Good December to March.

Among the more valuable of the recently introduced hardy apples is the *Northwestern Greening*. This apple is being widely disseminated in Aroostook and Northern Penobscot counties and seems worthy of planting. The variety originated in Waupaca county, Wisconsin, on the farm of Mr. J. J. Hatch, from seed planted about 1862, and was first propagated by E. W. Daniels of Aurorahville, Wis. It was first exhibited at a horticultural meeting in 1875, and at once met with favor, so that it is now widely spread over Wisconsin, Iowa and Minnesota.

The fruit is large, regular, conical, pale green in color; remarkably uniform in size, color, form and freedom from disease and insect attack. The stem is rather long, in a deep, moderately wide, flaring, but regular cavity; basin medium, calyx closed. Flesh firm, juicy, fine grained, white, a little tough and consequently keeps well. Good. Season December to March.

Collins is an apple which comes to notice from Cherryfield, and was brought to the writer's attention by Mr. David W. Campbell. The tree is vigorous, spreading, productive. Fruit large, roundish-conical, yellowish-green, washed and splashed on sunny side with deep crimson; stem medium, stout, inserted in a moderately deep, flaring, regular cavity; basin small, irregular, calyx closed; flesh greenish white; fine grained, crisp, tender, mildly acid. Good. November to February.

SMALL FRUITS.

The progress made in the culture of small fruits during the past twenty years has been rapid and substantial, but even at the

present time the importance of this branch of horticultural work is not fully recognized by the people of the State. From the very nature of the soil and climate of Maine, we must look to intensive rather than to extensive operations for the most satisfactory returns. With the increasing importance of our summer resorts, new and extensive markets are opened; while the operatives in the factories are always large consumers of fruit. For this reason the culture of small fruits seems to offer a specially promising field at the present time.

With the small fruits there is often a marked change from year to year in the estimated value of the leading varieties. In fact varieties come and go, with the leading growers, before they are even heard of by the great masses of the people.

The particular kinds of small fruits in which the growers of Maine are, or should be, specially interested are the currant, gooseberry and strawberry. Our conditions are particularly adapted to the production of the best of all these.

Currants. To the well-known Fay, Red Dutch, and Victoria, Wilder (or President Wilder) was a welcome addition as a profitable market currant as well as a satisfactory home berry. It is a very productive red variety, ripening about with Fay, and is without the unfortunate tendency of the latter, to spread its outer branches and break down in winter.

Prince Albert is another sort, which while grown for a number of years in New York and other sections, is seldom met in Maine. This is a very vigorous and very productive variety and has two specially valuable characteristics, in the lateness of maturity—after all other sorts are past their prime—and in its relative freedom from fungous diseases which frequently defoliate other sorts early in the season.

Perfection is the latest claimant for honors and was awarded the Barry gold medal for a new fruit of superior merit, by the Western New York Horticultural Society in 1901. My attention was first called to this variety at the Pan American Exposition in 1901 and it was first commercially disseminated in 1902. The variety is the result of a cross between the Fay and White Grape, made by Mr. C. G. Hooker of Rochester, N. Y., in 1887. It was introduced by C. M. Hooker & Son of Rochester. The bush is a strong grower with excellent foliage, and bears the fruit chiefly on the old wood—like the White Grape parent. The fruit cluster as officially described by W. A. Taylor, U. S.



An orchard scene on farm of Stephen Spaulding, North Buckfield.

Department of Agriculture, is "long, cylindrical, tapering but slightly with long stem; berries spherical, uniformly large, adhering tenaciously to the short, stout pedicle; color bright crimson; skin thin, moderately tough; flesh tender, translucent, juicy; seeds medium in size and number; flavor slightly sub-acid; quality good to very good; both for dessert in the fresh state and for cooking." The variety fruited for the first time at the Experiment Station this year. While the clusters were not quite as large as those seen previously, the fruit was of delicious quality and of superior size.

Gooseberries. No new varieties of this fruit have come to the writer's attention during the past year. For home use and for market nothing is superior to the old Downing.

Strawberries. To attempt to describe, or even to enumerate, all of the new claimants to a position of popular favor would be both unwise and tedious. Local conditions determine the success or failure of a given variety of strawberry to a very large extent. It may be said that just at this time Dorner ("Uncle Jim") comes nearest to holding first place. It is a perfect flowering berry, of large size, good quality, and *very productive*. Dunlap, New York, and Sample, are popular with many. The latter is attractive in appearance and is productive, but is too sour. Gibson and Brandywine should not be overlooked in securing berries for the home garden. The latter is also a favorite market sort with some. But with all the new varieties the old Clyde and Glen Mary still hold a strong place in popular affection.

In concluding this brief report, your committee would urge the members of the society to keep in mind the new things as they appear; and in case novelties are urged upon them by the ubiquitous tree agent, to mention the fact to the officers of the society, or to the committee, for investigation. In this way only can the most effective service be rendered.

I wish to ask any member having seedling apples of local importance to call my attention to these apples and forward specimens to me at Orono that I may photograph them and look up their history. If they are valuable, this Society wants to know it. Share the good things that you happen to have in your section of the State.

STORAGE OF FRUIT AND INSPECTION.

HOME STORAGE RESULTS.

F. H. MORSE of Waterford.

This subject is one that is altogether too large for me to handle, but as I have had a little experience along this line which has been to the advantage of my own pocketbook, there may be those here who would like the advantage of that experience.

After twenty years experience in picking, storing and marketing apples—ten years without any special place for storing them and ten years with storage house built for the purpose, I am fully convinced that every orchard should be provided with some sort of storage room.

Under favorable circumstances some cooperative plan might be used to advantage. But as many of us are situated, as in our own case with no other large orchards near by, we have found that home storage can be used to great advantage.

Anyone who has helped to harvest the apples from an orchard of any size knows that with the present scarcity of help, a place very near where they can be safely stored until wanted for market, must be of great value. When we decided we needed such a building it was very hard to decide how it should be built. I saw in Thomas's Fruit Book a description of one built with two partitions and sawdust packings—as some ice houses are built. But after going to see two or three fruit houses and consulting several of our best orchardists, we decided to build on the dead-air principle.

Our house is built with four air-tight partitions, making three dead-air spaces on all sides. These were made by two thicknesses of boards with sheathing paper between. The outside and inside of the buildings are of sheathing boards, all the other parts are made of the very cheapest materials. The work needs to be very carefully done, as upon the tightness of these partitions depends the success of the building. We have two double windows fitted with shutters outside and in. For common use we have an ordinary door large enough to back our

double team into. But when we shut it up for winter we have an extra door with an air space in it.

As an aid to cooling the apples when they are first put in and for ventilation there is a flue about ten by twelve inches. This opens from the floor opposite the door, goes down four or five feet then runs off about twenty feet into a hollow. There are also two small flues and a movable stairway leading to chamber above. The stairway is so constructed that when the stairs are put up it makes an air space like the rest of the ceiling over head. This ceiling is of two thicknesses of board and one of sheathing paper and the floor of the chamber is made in the same way, making an air space. The underpinning was carefully fitted and a mixture of lime and cement used for pointing. So it is supposed to be air-tight, except two small places that were left for ventilation.

We have been using the house for eleven seasons and have found whether the apples were packed in November, December or February, they have come out in almost perfect condition—except three years ago when the scab and black spot ruined so many, and that year they kept until the last of March when nearly all of them were in as good shape to evaporate as they would have been in the fall. We store them just as they are picked from the trees. In picking we are very careful about bruising, but do not stop to remove any leaves or stems that come off with the apples.

Our experience leads us to believe that apples can be stored in this way with as little waste as if shipped to cold storage. This largely because they can be put in here immediately after picking. And although not as cold as in the regular cold storage house the evenness of the temperature favors the keeping. We have known the house, after once being cooled down to about freezing to remain weeks without changing a degree. One year they were sorted the tenth of November but the buyer decided he would not ship them at that time. They were left in the barrels without heading. At the end of three months, when he wanted them they had kept so perfectly that it was not necessary to re-sort before shipping.

If an orchard is fitted with a storage house it enables the owner to use his judgment as to when to dispose of his crop instead of being obliged to sell as soon as picked. We made enough in this way on our crop in 1900 to more than pay for the

building. And there have been a number of years when we have obtained from 25 cents to 50 cents per barrel more for our apples by holding them awhile. And as the shrinkage has been almost nothing the income from the orchard has been very much greater. Our orchard has outgrown the house, and we have felt so well satisfied with the working of it, that we have commenced on another and larger room on about the same principle.

Dr. TWITCHELL: Mr. Morse, do you put these in in bulk or in barrels?

Mr. MORSE: Both ways. For the last three years we have put part of them in bins and part in barrels. I think perhaps they keep fully as well in the bin. We leave spaces between each board and that gives a little more chance for the air to circulate.

Question: On the bottom as well as the sides?

Mr. MORSE: Yes, but of course as soon as the weather gets cold enough so that the room is cooled down, then we shut it up and there is no ventilation at all any way—it is air-tight—and we keep the dead air in that all winter. I may say right here that this building is a mile and a half away from home. This of course is a disadvantage as far as cooling it is concerned. If we had it at home, when it was cool we could go out and open all the ventilators and then in the morning close them, and thus cool it off better. Still it is really as nearly perfect in my mind as anything need to be in that way.

Dr. TWITCHELL: What is the size of your building?

Mr. MORSE: The outside of the building is 26 x 30, and the capacity set in in the barrel is about 600 barrels. In 1900 by putting them in in bins we put in enough so that we packed out 600 barrels of marketable apples from it.

Question: Do you put in any artificial heat, stove or anything of that kind?

Mr. MORSE: No, it isn't fitted for that, only as we have put in a lamp or something of that kind when it hadn't been shut up properly and got a little colder than it ought to be. Apples have been in there when it was 25 below zero and come out all right. In all the years we have used it we never have lost a peck of apples from freezing. We found a few two or three times when we were packing that were chilled a little, but by picking them up without touching them with our hands so as to spot them the frost would come out.

COOPERATIVE STORAGE AND THE OPERATION OF
THE FRUIT MARKS ACT IN CANADA.

WILLIAM CRAIG of Auburn (formerly of Canada.)

Cooperative storage and marketing can be operated successfully by a number of fruit-growers residing within a radius of eight or ten miles incorporating themselves and securing a storage and packing house combined, near a railroad station. It usually consists of a good sized insulated building with basement in which the winter varieties are held until satisfactory prices are secured. Artificial cooling is not necessary. Temperature being regulated by ventilation or opening when cool. Dead-air spaces in the walls are absolutely necessary to resist fluctuating temperature. So much for the building.

A competent packer is engaged whose duty it is to supervise the packing, make sales and attend to the shipping. The fruit is sorted into 1's and 2's as soon as delivered by the growers. Culls are returned and each man is credited with his share of salable fruit. The cost of packing at a central station of this kind is from 10 to 15 cents per barrel. It is true in most instances that the individual grower loses his identity but does so for the benefit of the common cause. But there are instances where cooperation is carried on successfully, the individual putting his name and address on his fruit. These few points which I have touched upon briefly cover to a great extent, the cooperative system as practiced in many places.

The advantages, you can easily see, are many—as purchasing barrels and boxes in car lots, better prices are obtained, the fruit being of a uniform grade—lower shipping rates are secured, and the small orchardist by cooperating finds sale for his fruit; otherwise they are often overlooked by the buyers. In Canada they not only cooperate in packing and selling, but in purchasing spraying apparatus, carbonate of copper, Paris green, etc., at reduced rates. Local conditions regulate the rules in cooperation and each association forms rules to suit itself.

Next in order I will say a word about the *Fruit Marks* act passed in 1901. This going hand in hand with the cooperative system has worked marvels in connection with raising the standard in packing fruit. As you know it was passed by the Dominion legislature for the purpose of remedying some evils

which existed; principally that of overfacing, also that of fake marking. Far too many different expressions were used. No. 1 choice was not sufficient nor was the name of the grower and address always marked. But under the act of 1901, every closed package must have the address of packer, name of fruit and grade, which must be one of six: No. 1, or XXX; No. 2, or XX; No. 3 or X. It is also enacted that no person shall pack, sell or have in his possession for sale, any package marked No. 1, or XXX that does not correspond to a definite standard for that grade. This section reads: "No person shall sell, offer, expose, or have in his possession for sale any fruit in a closed package upon which package is marked any designation which represents such fruit as No. 1, or XXX finest, best or extra good quality unless such fruit consists of well grown specimens of one variety; sound and of nearly uniform size, of good color for the variety, of normal shape and not less than 90% free from scab, worm holes, bruises, and other defects and properly packed."

In conjunction with the Fruit Marks act eight *inspectors* were appointed with a few temporary assistants for the busy season. Now this force has made a marked change not only in apples but in the general fruit trade of Canada. The inspectors have power to enter any warehouse, car or steamship. The cost of enforcing this act was not great. The Dominion government appropriates \$20,000 annually and half of that goes towards educational purposes because the inspectors when not engaged in actual inspection of fruit are addressing fruit and orchard meetings.

Mr. KNOWLTON: Are these cooperative storehouses owned or operated by the government?

Mr. CRAIG: Oh, no.

Prof. MUNSON: These cooperative fruit houses are in actual, practical operation at the present time?

Mr. CRAIG: Yes. I have the addresses of men who are willing to give information on the subject.

Prof. MUNSON: May I ask further in regard to the marketing of this fruit after it is thus stored? Is there a cooperative association which attends both to the storing and to the marketing of the product?

Mr. CRAIG: The man that has charge of the packing also has charge of the selling the same as in the cooperative cheese factories. I suppose that that matter would rest with the people,

whether they would appoint a salesman, an actual salesman, or have a packer who would be capable of making the sales. That would be a matter of local option, I think.

Prof. MUNSON: Two or three years ago I tried to present before the Society an outline of cooperative marketing, and urged upon the Society the importance of just the line of work which Mr. Craig has given to you tonight. I believe just as strongly today as I did at that time that cooperative storing and marketing is essential to the highest success in fruit growing in New England. As I have said so many times before, we have a lesson to learn from our California brethren. They have solved the problem of marketing. And until we Yankees get over our provincial characteristic of trying to get ahead of the other fellow every time, why we are not going to succeed so well as our California friends do.

I was talking today with a large shipper of fruit who is with us—and he has been interested in our Maine fruit for several years—and I was pained, but not surprised at the report which he gives us of the attitude taken in the foreign markets toward our Maine fruit. He tells me that Maine does not hold the place in the foreign market that she did three and four years ago, for the reason that our fruit is not packed properly. Now that is something we have been drumming and drilling on every year, but it has not been brought home to us as it is when a man comes to us directly from the foreign markets and says, "Here, you fellows, you have got to pack your fruit better or you are falling behind." Now that is just the condition we find ourselves in at the present time. This matter was brought up at our meeting last year, and in discussing this matter of cooperative marketing and of honest packing—I don't think any of those people are here,—but do you know, those other fellows said, "Why, I don't care what the fruit is after it is packed. I grow the fruit and if they are fools enough to put in all their old rubbish, why the money is in my pocket, I don't care." Now isn't that kind of a selfish way to look at it? It is just that don't care spirit that is ruining our reputation in the State of Maine. Now I desire for this Society and for the friends of Maine, for those who take an interest in Maine's reputation, to rise up and use not merely moral suasion but if necessary legal suasion to insure honest packing of fruit.

Mr. R. E. McLATCHY: I have never said anything before an audience before, but I have had considerable experience in sending apples to the European markets. When I first came into the State five years ago, I found the business very satisfactory. The apples seemed to be of fair quality and they seem to have been packed in a better manner. Three and four years ago a lot of money was made by the buyers and dealers in shipping apples to the foreign markets. From that started the great competition in buying. The buyers went out over the country and they were very anxious to get the fruit. In order to be favored by the farmers in securing their apples why they would make concessions in the way of taking their poor stuff, taking the apples that in former years they had thrown out entirely. And since they commenced doing this I have noticed that the prices have dropped off as compared with what Canadian and Nova Scotia apples bring. Since the Fruit Marks law went into force in Canada the Canadian apples have been having a prestige over Maine apples with the exception of some western New York or Vermont. I don't know hardly what to suggest in regard to a remedy other than this, that the Maine fruit growers should have a regulation in regard to grading the same as they have in Canada. I think if that should go into effect that the Maine apples would again take prestige above the Canadian apples. I feel quite sure of it. The Maine Baldwins in 1900 and 1901 were invariably better than the Canadian. This year they are from two shillings to four shillings below the Canadian. That is as far as I know.

Prof. MUNSON: In your judgment the practice of selling number ones and twos together is detrimental to the trade?

Mr. McLATCHY: I think it is, yes,—unless they have a mark and only put good apples in the barrel. They can grade their apples down to two and one-fourth inches,—face them up well and run two and one-fourth inches through the barrel. That class sells well. But when they go to putting in green apples and wormy apples, it make a great difference. I think it is the wormy apples and imperfect fruit that has hurt the market more than anything else.

Prof. MUNSON: We hear a great deal about farmer-packed fruits in a kind of a sneering way. Is it your experience that the farmer-packed is worse than the professional?

Mr. McLATCHY: In 1901 I handled something like ten thousand barrels of farmer-packed fruit. The farmer-packed brought the top of the market and there was no complaint whatever in regard to their packing. In soliciting the business from the farmers they are very careful in impressing on them the way apples should be packed, and in many cases they were packed in a great deal better shape than the dealers pack them.

Mr. TRUE: It seems to me we have got to have a radical change here in some way—I don't know how we are going to get at it—but the way it has been if a man comes to me and wants to know if I have got two, three or four hundred barrels of apples to sell, why, I have got to say, yes, I have. "Well, what do you ask for them?" "Well, I think I ought to have about so much." "Well, I will give you so much and come and pack them." Well, that is a square business transaction, sell him the apples and he comes and packs them as he sees fit, pays so much a barrel, and he puts in about everything there is there. And we get the money and we are glad of it, for that time. But next year—our fruit, as Mr. McLatchy says, is getting a black eye—and the next year he cannot pay us quite as much and we have to set our price a little lower. But he takes them all and we are glad of it. And the next year a little worse. Now what is going to be the remedy? We have got to have some radical change here in some way. All I want is the man to rise up and tell us just what we ought to do. Is the trouble with the packer or the grower? He comes and packs the apples but unless he cleans them all up the grower is on his back.

Mr. E. E. HARDY: I believe the trouble is with the grower. Just like the man up in Franklin county that makes maple syrup and wants to get rid of it all, and the market is a dollar a gallon for anybody who makes good stuff. He cuts the price to 75 cents and he gets \$75 for his 100 gallons. The other fellow holds his price up to a dollar and gets \$75 for 75 gallons. Now the fellow who would talk apples in that way would get good prices for them in the end.

Prof. MUNSON: There is one thing about this discussion, while it may not result in anything this year and it may not next year, if this Society keeps everlastingly at it the time is going to come within a very few years, I am satisfied, when the growers of the State of Maine, backed up by law, can say that the fruit which goes out from the State of Maine is just as good as the

fruit which goes out from the Province of Ontario or the Province of Quebec. Some one will say very likely that the buyers will say "If we can't get Maine fruit without this inspection, why we will go to New York" and so on, but you know as well as I do that that is not going to be the case. There are lots of people that are going where they can be sure of getting the best, and I believe in the near future if we keep at it, keep agitating this subject, that we are going to get some laws which will help us to insure the sending forth of first-class Maine fruit with the Maine mark upon it. Let us keep at it.

Mr. DECOSTER: This is an important question that should interest all of us. I was talking with a commission man who told me that it would pay him lots of times to go through barrels and sort them. You don't realize what a peck of apples means—pick out that peck of apples and thereby you can get a dollar more for your barrel. I tell you I believe the time is coming when we have got to look after this packing more than we do. I believe the time is coming when we shall have a little pride in the matter, feel like putting our name on every barrel that is shipped, stamp our name, have stencils of our own, and pack them accordingly.

Mr. CRAIG: I omitted in my remarks on the work of the inspectors, how it varied. It seems to me it would be the easiest way to get over the difficulty in Maine if you could have inspectors who would stay at the ports and railroad stations and not look over every barrel but one in a car lot and so on—that is the way they did in Canada. And the first year they prosecuted only two individuals, I believe, but gave warnings. The next year there were fifty-five prosecutions, and I understand that last year there were very few, only something like twelve. And now they prosecute every case they come across that is not up to par. They have, as you know, number ones and twos of a certain size, and if they are not up to the regulation, if the face is not a true representation of the barrel, they are prosecuted. Now I have an idea that that is about the only way you can get out of the difficulty here, to bring it about by public inspection the same as we have in Canada.

FEASIBILITY OF LEGISLATION, ETC.

The following recommendation was passed at the last annual meeting: Recommended that a committee be appointed to con-

sider the feasibility of legislation regarding the grading, marking and inspection of fruit along the line followed in Canada and in sister states and report at the next meeting.

Report on above. Dr. George M. Twitchell.

What a mercenary spirit has got hold of us all! I wonder if there is a man present that does not feel like Brother True, that he wants to get all he can out of his apples and if he can squeeze a few dollars more he would like to have it. Now isn't that the spirit that is in us all, we want all we can get and a little more and then we want another dollar?

We have been discussing the growing of fruit, and this subject of storage and marketing comes in now as legitimate, and really as all essential. I believe if we would drop for a while this matter of new varieties, which always interests us, and would give our attention sharply and concisely, clearly, to the subject of storage and of marketing—how and when and in what manner, under what laws, that we would reach results which otherwise are impossible. The story is told of an old deacon and his wife on a stormy Sunday starting for church. The snow was deep and he could not get his horse out. She insisted upon going and he said, "Very well, then I will go ahead and you can follow me," and he started. But unfortunately she put her left foot where he put his right one, and the poor old lady has been walking cross-legged ever since. Now it seems to me that in this work we are talking of growing good apples, we are seeking to get the best varieties, we are studying the question of cultivation and fertilization, emphasizing all those lines, and yet it seems to me we are walking cross-legged in our work and because of that we are losing. We are selling to any buyer who comes who we think will give us a little more than the other fellow, and allowing him to pack and grade. I stood by the side of a farmer a few days ago as they were packing his apples, and I said to him, "Would you pack apples as these men are packing them if you were sending them to market?" He said, "No, sir." "Then why do you allow him to?" "I sold him the lot for so much a barrel right through." They go out as Maine Baldwins, were stamped No. 1 Maine Baldwins. No wonder they are from two to four shillings behind the Canadian Baldwins that are graded and inspected. We want all we can get and we think we are out from under the responsibility when a man comes and takes our apples and pays so much per barrel

for ones and twos and packs them himself. And yet that very course continued is going to ruin the fruit prospects in the State of Maine. We are putting the stamp of the State of Maine on an inferior quality of apples,—that is what we are doing. We are saying to the world, “These are No. 1 Maine Baldwins, the best we can grow,” and they are wormy and they are small and they are gnarly and they are inferior. Why? Because the man who bought them thought they would pass on the market. They grade them from a commercial standpoint solely. They are looking after the dollars and cents and they are grading from that standpoint entirely. They take whatever will pass as a No. 1 Baldwin, and you and I and others who are trying to grow Baldwins in the State of Maine have to take the responsibility when they reach the great markets, and the State of Maine is graded two to four shillings below Canada. If we are satisfied with that, let us let it go on.

How many wormy apples do you suppose there were in those boxes of Kings that Mr. Pope sent to Boston and got \$2.50 for? Do you suppose that he could grade apples in that way and sell at any such price? That is this year, his Kings; selling his Gravensteins for \$2.50 to \$3 a box,—a bushel box, \$7.50 a barrel. Do you suppose it would be possible if they were graded by one of these buyers? There is no criticism to fall upon these men. They are measuring the business purely and simply from a commercial standpoint. They are after the dollars and they are sharp too, and they are going to pay just as good profits as they can afford to pay, and they are going to put in the barrel everything which they think will pass in the market to which they are going and bring the price—measuring, I say, the business purely from a commercial standpoint. And that spirit of commercialism unless we look out is going to injure the State of Maine seriously.

This subject, to which Prof. Munson called attention two years ago, came up again last year and this resolution looking to the grading of the fruit was put into my hands and I was asked to look it up and report at this session.

I have here a letter from the chief of the fruit division at Ottawa, written in the spring of this year, which I would like to read. Touching the Fruit Marks act, he says:

“I am sending you a copy of the Fruit Marks act of 1901. This act is enforced by nine government inspectors appointed

under section 12 of the act; there are also as many temporary inspectors appointed during the busy season. We examine only a very small percentage of the entire output of Canada but all packages are liable to inspection. We are fortunate in having the greater portion of the apple crop leave Canada at the port of Montreal, so that the examination at that port practically catches all the export trade till the end of November. The results have proved very satisfactory. The number of prosecutions last year was forty-three. It is not at all likely there will be as many prosecutions this year, though there will always be a necessity for inspectors and prosecutions. The packing and grading of fruit in Canada have been greatly improved as a result of the enforcement of the Fruit Marks act."

I will read a few portions of the Fruit Marks act.

"Every person who, by himself or through the agency of another person, packs fruit in a closed package, intended for sale, shall cause the package to be marked in a plain and indelible manner, before it is taken from the premises where it is packed" and then it provides for the marks.

"No person shall sell, or offer, expose or have in his possession for sale any fruit packed in any package in which the faced or shown surface gives a false representation of the contents of such package; and it shall be considered a false representation when more than fifteen per cent of such fruit is substantially smaller in size than, or inferior in grade to, or different in variety from, the faced or shown surface of such package." Then it goes on to provide for the penalty.

Under that law during the past five years, you have heard from those who have preceded me the results, the improvement—and naturally the improvement in price in the market this year.

"While in England last winter," writes Mr. M. E. Kyle of Oakville, Ontario, "I found the Fruit Marks act had done a great deal to improve the standing of Canadian fruit on British markets, although even yet some of the fruit shipped from Canada is not what it should be. Unless shipments of inferior fruit can be stopped, our trade will continue to receive more or less injury."

So you see our fruit growers across the line are working pretty sharply along this line. Now to some such legislation I believe we must come in the State of Maine. And yet I realize the fact that this legislation cannot be local. It must be National. We

took the initiative in this State Society on this side of the line. The New York Fruit Growers' Association a few weeks ago discussed this same subject and appointed a committee to consider the matter of a law which should govern the grading of the fruit. Others are waking. Now are we to go forward in this matter or not? Are we as a Society to continue our work along this line and keep, as Prof. Munson says, everlastingly at it until something is gained and a law is passed which will necessitate the observation of certain rules and requirements, and insure as a result that uniform grading which will restore the State of Maine to its rightful position? Or are we to trust to the general work of education by the Society and by individuals which will arouse on the part of the growers more of pride in their work and pride in the State, and reach this by individual efforts?

Now one of the two courses alone is offered to us. We reach the result by one course through legislation which forces a man to do. We reach it in the other by the more indirect way, which is more difficult always to see and note the results and to secure that cooperation which is absolutely necessary.

I wish we could discuss the question of practical cooperation along these lines, as in the work which is being done in some localities, but tonight we are discussing this question of the Fruit Marks Act. How are we to do this, or how are we to take the next step? It seems to me the next step for us to take is right along the line of securing, or rather of working to secure National legislation because State legislation will fail us. We cannot reach and control the conditions by and through State legislation. We must have National legislation in order to reach results. This Society can do no better service to the fruit interests of the State than by taking up this question and kindling an interest in the great subject which will ultimately lead to that proper, rightful and just grading of our fruit which shall stamp it for what it really is and insure to the grower all that is possible as the result of his labor. This I believe to be essentially necessary for us. Or else, I say, we must fall back upon the other alternative and take up the work of individual education and stimulation of pride on the part of growers in order that they may come to realize the necessity, and the sure returns which will follow. If we feel it now, ultimately we may feel it in larger measure. Unless there is a more thorough and careful

grading of our fruit, ultimately there is coming to us a larger measure of loss than we have yet met. We cannot sustain our reputation very long unless there is character behind it, and that character calls for honesty in dealing.

And therefore, Mr. President, I submit this resolution:

Resolved, That this Society, recognizing the substantial growth of our fruit industry and realizing the necessity for a more critical grading of the stock, for the protection of the grower, declares in favor of National legislation looking to a Fruit Marks Act, and authorizes the appointment of a committee whose duty it shall be to correspond with the officers of the Fruit Growers' Associations in the several states, and if a general sentiment is found favoring such action to arrange a conference for the purpose of outlining National legislation, said committee to be authorized to expend a sum not to exceed fifty dollars for postage and necessary printing and expenses, a full report to be made at the next annual session of this Society.

[The resolve passed and Dr. George M. Twitchell was appointed the committee created by the resolve.—*Secretary*.]

THE GOSPEL OF CHASE'S MILLS.

SOLON CHASE.

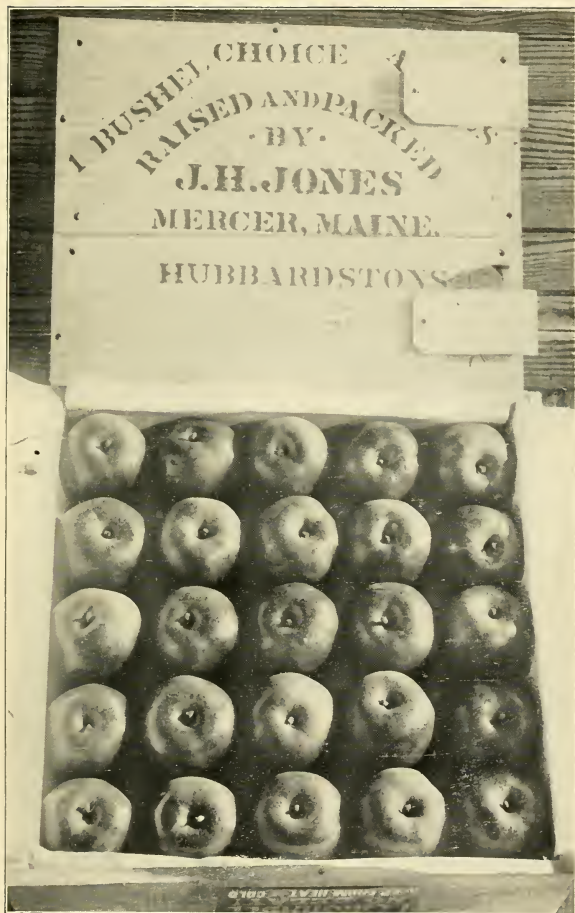
"The fault, dear Brutus, is not in our stars, but in ourselves."

What we need is to raise better apples and more of them. Now I have got a trademark that I put on one brand of my apples and it counts. Whenever I take out a barrel of Spies and put them steers right on, whoever gets that barrel of apples will want another one every time.

My friend Knowlton came down to Turner, my home town, a few years ago and addressed a meeting and I was there. I had begun orcharding then, and what I got from that meeting has helped me a good deal. I got in the first place an idea to raise small fruits. From that time to this I have had plenty of small fruits all the time for my use. I have not raised for market. I had then got my interest on Northern Spies. They call me a Northern Spy crank. Well, perhaps the time may come when they will call me a Northern Spy king instead of a crank.

Any fellow can pack a good barrel of apples, but the man don't live that can make a good barrel of apples out of inferior fruit. There is where it comes. It is right back there. We have got to raise better apples or get out of the market. That is what we have got to do. The possibilities of the Maine apples are just immense. I can see that. I know it. My method has been a liberal use of the harrow, the handsaw and the jackknife. I had rather plant a Northern Spy in a sand bank than in witch-grass sod. I put them steers on a barrel of apples and they will go anywhere. I have got three hundred of them in the cellar now.

I am interested in this talk about cold storage. I have got cold storage in my cellar for 300 barrels, but I can see prospects ahead for 1,000 barrels of Northern Spies. I am eighty-three. I haven't got to live many years more before I shall want cold storage for 1,000 barrels of Spies. Apples in my cellar will be in perfect condition the middle of next May—keep longer if you wanted them to. My cellar is not a warm cellar. It is a moist cellar—frost sometimes a little—if they do it won't hurt them any. All you have got to do is to let them alone. If they frost a little, they stand right where they are and don't ripen. If you have your cellar warm they will ripen and soon perish. The



Box of apples shown at Maine Pomological Society, 1905. Sent to Governor Cobb, with compliments of the society.

man was at my house the other day who took them last year and the year before and he said to me, "Why, they are in as good cold storage here as any place in Boston." Ain't going to be fit to eat till along in April and May, and when we get at them they are good easy eating, I can tell you that.

Now here we are in the State of Maine with most of the apples growing wild like a beechnut. Beechnuts grow wild and they bear once in five or six years. Now I get a crop of Northern Spies every year. They are surer than corn. Most of the farmers don't deserve any apples and don't have any faith that they are going to get any apples, and haven't got faith enough to provide themselves with barrels. But today in the State of Maine we are getting more out of the apples than we are out of the corn, and sweet corn,—more in our town, and all of the towns where there are sweet corn factories,—get more out of the apples than out of the sweet corn—and when they all grow wild. What in the devil we are thinking about I don't know. They grow wild so well I suppose they think they will get them any way. But now let me tell you that if you will go into your orchards and cultivate your orchards as you do your corn fields, you will have no trouble about this bad packing, not the least mite of it. Cultivate the ground. The ground don't want to be over rich. A ground that will bear good corn is all right. The Northern Spy won't grow wild so well as some other kinds will; but it will stand culture. You may cultivate it as much as you are a mind to. There are more trees die of starvation than there are die with belly ache. Let them die if they want to, they will die in a good cause. If I pick ten or twelve barrels of apples off a Northern Spy tree, if that tree dies it dies in a good cause. My Northern Spies are better and hardier than anything else—grow well—grow right along.

Here we are finding fault with the packers, but don't go back to where the real trouble is. Now we want to educate the people. Perhaps your legislation may be all right, but we want education with elbow grease. You want to let the farmers understand that they can afford to put work into their orchards and have their apple trees clean, not let any witch-grass nor weeds nor anything else grow. Keep the harrow a going and you will be surprised.

The difficulty I have now is that I don't get red apples enough. Trim the trees out—but Northern Spies will bear and want a good deal of foliage. But pale Northern Spies, good large apples, ripen in the cellar and they are as good as the red ones, come out a kind of an orange color, and take them along in the middle of May and you can't get nothing better. The demand for Northern Spies, good apples, is growing all over the country. Today a lady came to me, introduced herself and wanted to know if I had Northern Spies; said she had two barrels of me two years ago and she never had any such apples in her life. Now last year apples were a drug in the market. A man came along, looked at my Northern Spies and wanted to know what I asked for them. I told him \$2.50 right through. Didn't think he would take me up. They were selling Baldwins for a dollar a barrel then if they could get it. But he took me up. I might have got twice as much for them, but of course I stood my ground and he took the apples and made lots of money on them. That is all right, you know, but this year I calculate to hold them where I can stand out. I have been offered \$3.75 for them and now they stand at \$4 and they will rise on that before long.

You can raise good fruit if you will deserve good fruit in the State of Maine. Here we are, close to tide water—don't cost but little to carry a barrel of good apples to Liverpool. We are close to the shore. Freight is cheap. We have the soil and the climate that brings the apple to perfection. Suppose you plant a crop of corn and never go nigh it, only pick off the ears—how many ears do you get? It is so with the orchard, people only think about it at picking time and then what they pick they think is so much clear gain. But the result is that the quality of our apples is going down in the market. Now why not build that quality up? Why not try to cultivate our orchards and see the result? Then you will have no trouble about packers,—not at all. But I should like to see the man that would take a lot of wormy, bruised apples and pack them so they are in good shape and will go well. But you take good, smooth apples, uniform in size, no worms, and a little child can put those apples into the barrel and they are all right. The trouble is, you don't raise the fruit good enough.

If we would go to work in the State of Maine and plant our orchards and trim up the old trees and cultivate them, the boys

would stay on the farms. Many farmers wonder why the boys and girls don't stay on the farms. Why, there is a good many of our farms that ain't fit for white men or women to live on. That is why they don't stay on the farms. I know farmers who have been working all their lifetime to put a sum of money in the savings bank and they have been doing that for sixty-five or seventy years. Well, the result is they have got a little nest in the savings bank, but the buildings have run down, the bushes have grown up in the fields, and no man can afford to go onto the farm and live. But you plant an orchard on your farm and I tell you the boys ain't going away. I have a boy, my youngest son, at home—took me some time to get him into this religion I have got, but now he has got so he is ready to drive the harrow. He don't object to seven or eight hundred dollars along in the spring—kind of a good thing—about equal to your potatoes.

REPORT OF COMMITTEE ON FRUIT PACKAGES.

By E. L. LINCOLN, Wayne.

[Mr. Lincoln had several boxes of different sizes to illustrate his discussion of the apple box.—*Secretary*.]

As I came into the hall I picked up a slip of paper giving shipments of apples,—and I note that it is all in barrels,—the unit seems to be the barrel.

This is a subject that is being discussed by many fruit growers at the present time. It is a question, whether the box or barrel makes the better package for apples and pears. But in my opinion, I should prefer the box for fancy fruit, the barrel for common or choice, and the box car to supply the canning factories.

Apples of a tender variety, such as are generally used for eating and table use should be packed in boxes. The Northern Spy, Yellow Bellflower, and other varieties which I could mention, do not want to be jammed in a barrel, but ought to be packed as carefully, and in as attractive a form, as the orange or peach. Take an orange and a Maine apple and roll them across the floor, each with the same usage, and the orange will come out in better condition, but still there is the most care taken in packing it.

We need to put our fruit in packages that will suit the market to which it is shipped. There is a demand for three grades of apples at the present time, that the grower will have to meet. The well-to-do, who will pay for a high grade, the common or poor people, who cannot afford the high priced and the canning factories.

One of the needs of the present time is some system and uniformity, in regard to using boxes for packing our fruit. We are not looking for the easiest way to pack and ship apples, but they way that will bring in the best returns to the grower and at the same time will be more convenient for the consumer. Oh, be content with the barrel system for choice fruit, we are often told. But if all people had been contented, there would never have been any progress. Discontent is the sign of awakening life. It has been said that the rich are not contented. They are trying to better themselves. And why should not the fruit grower do the same, and have a better system for packing fancy fruit? The box system of packing apples is attracting the attention of fruit growers in all parts of the country and it is my effort to awaken an interest here in Maine that will lead to the adoption of a standard size for a Maine fruit box.

The box should be uniform in size that is used everywhere so that the buyer may know what a box of apples is, as well as he knows the barrel. As it is today, the buyer does not know the quantity that a box contains. Why does not the orange grower ship his oranges in barrels and different sized boxes?

If a trader here in Canton wants a box of oranges, when sending to Portland or any other market, he knows just what he is buying in size and the grade he wants. And at the same time when a trader in any other part of the country wants a box of oranges he knows just what he is buying too. He is getting the same size there as the trader is here.

Now, why should not we, here in Maine, pack our apples in such a manner, that a trader in any part of the world who buys a box of Maine apples, will know that he is getting just what he orders? The same size in Maine or California.

Why is it that the commission men of Boston, prefer the barrel to the box? It is because there is no system in packing in the box. We have got to make progress and see if we cannot have a uniform box or package for apples, as we now have the orange or lemon box.

If you have been in the market in Boston, you would see that there are a number of different kinds of boxes in use. One of the best and cheapest, is the Colorado box. It has nice well dressed ends. The bottom and top are made of very thin material that is not dressed. When the box is packed the bottom and top spring out, but when the fruit settles, it closes up, and keeps the apples from rattling. This you can see, is a great deal in its favor.

The box is as cheap a form of package as the barrel, owing to the advance in the price of barrels, in late years ranging from 35 to 45 cents. By using the box, you can save in freight, over the barrel, by space taken up in the car.

There should be a uniform box package for apples for the export trade. The barrel may be desirable for a certain per cent of apples grown, but at the same time, Maine apples seldom reach Great Britain in perfect condition. And you well know that there are certain varieties which cannot be shipped in barrels and come out sound. When the buyer wants a fancy apple for table use, price is of no object, and bruised apples are out of the question. For the fine trade the box package is necessary.

Nearly all of the fine fruit imported, also all brought in from the western states to eastern markets are in the box form.

Now, why should not we in exporting, be up with them in shipping our fruit. We need to make a standard size box and put it in force by our actions. It seems beyond question that it would be a great benefit to the fruit grower.

In some sections of the country the cooperative plan in packing and selling fruit is being carried out in the form of a packing house with success. Each man sends his own fruit to the packing house where it is graded and carefully packed in a scientific manner. Being in touch with the principal markets the manager can often sell to a greater advantage than could otherwise be the case. To the small grower cooperation would be of great value, as he has not the facilities to pack and sell in small amounts. Fruit should be graded like corn and wheat that it may be quoted on the market by grade, then the buyer will be able to know what he is buying. But under the present system, with each man grading his fruit to his own liking, and packing in different size boxes, this is impossible.

Under this system of cooperation, the box package would certainly be necessary. Let us be up with the times and make some advancement for the interest of the fruit growers of Maine.

I have here some communications from growers and commission men: Mr. J. H. Jones of Mercer writes: "I have been thinking for some time that apples are being put on the market in a manner not equal to other fruits. As J. H. Hale says, the cost of a neat package is more than paid for by the consumer. After finding the size and shape of bushel boxes used in different places I chose one to suit myself—a box $15\frac{1}{2} \times 15\frac{1}{2} \times 10$ inside measure, that size being easy to pack and handle. Of about 175 barrels, which were handled mostly in boxes, and with the exception of Harvey, which is a cooking apple, I got from seventy-five cents to one dollar a barrel more by the box than by the barrel. Mr. Page sold one load of my Williams, barrels \$3.50, boxes \$1.75. A very few of my boxes sold for \$2.25, but the most for \$1.75. As it is well for us to have a box of standard size and shape, and being interested in this work I think I will send you a box of apples put up as I ship them, for inspection."

Seaverns & Company write as follows: "We prefer barrels for fancy fruit although we have had fairly good luck in selling fancy fruit in half barrel boxes. We prefer half barrel boxes in place of bushel boxes. We think we can get full better prices for real fancy fruit in barrels than in boxes. Lots of buyers when we have really a half barrel box, it is hard work to make them believe it is a half barrel. We receive occasionally a very fancy lot packed in boxes where we are able to get a little more than barrel price, but not generally. If you go to sell a man a barrel of apples he knows just what he is talking about. There are so many different sizes of boxes coming that he gets mixed up on the size. The best one-half barrel box we have ever received is made up around Farmington and Wilton. It is a full one-half barrel box. Any fruit packed in them sells all right."

D. Crossley & Sons write: "Would say that for fancy apples the boxed package is a desirable package. The size and style of box preferred is the California style, a bushel box, each apple wrapped in paper, the four tier size. The grower would not get better prices for apples packed in boxes if the same quality was in a barrel, because apples are sold by weight in England and

the retailers will not give a higher price because apples are in a box unless they are better apples. True, a small package is desirable and can be handled to private trade who would not want to buy a barrel."

I move you that this Society recommend the adoption of a Maine standard apple box of the capacity of one bushel—the box to be adopted to be the California style which is, inside dimensions, length 21 inches, depth 11 inches, width 10 inches.

MR. POPE: I have been shipping apples in vegetable boxes. I corresponded with parties in Boston who were going to sell my apples and asked them to send me an empty box—a package which would suit them to sell apples in. They sent me the vegetable box, 18 inches square and 8 inches deep, inside measure. Everybody in that section knows that those boxes contain just a bushel. And they prefer them on that account, I suppose, to have them come in these vegetable boxes. I have shipped wholly in these. I will say while I am up that I corresponded with parties who were agents for Pritchard & Co. They discouraged shipping in boxes and said it was no use to think of shipping apples in boxes to the English market, the foreign markets, unless we propose to sort them to size, four tiers or five tiers, and wrap them in tissue paper, and they thought that until we were ready to do that we better let the boxes alone. That is the way the California people do. They all have to be sorted to size, so many tiers deep, and wrapped in tissue paper. It would be only our fancy eating apples that we would think of selling in that way.

MR. LINCOLN: It is not so much what kind of a box we adopt, but to have a standard size of some kind, so that the commission men in Boston will know what they are selling. You give them a standard size box and they will call for boxes, that is where it is. There isn't any unit, there isn't any standard, so they can make the buyers believe what they are getting, and just as soon as you get a uniform box, then for fancy fruit the barrel will be done away with.

MR. WALLINGFORD: I have reckoned the cubic inches in each of the four sizes suggested. In the first box (Jones) there are 2,335 cubic inches; in the second box, the Canadian box, 2,268 cubic inches; in the third box, the California box, 2,310 cubic inches, while in the standard box which Mr. Pope used, which is the vegetable box of Boston, there are 2,592 cubic inches.

There is quite a variation. The bushel contains 2,150.42 cubic inches. The box that Mr. Pope used is considerably over a bushel.

Mr. POPE: Allow me to interrupt you. A strict bushel doesn't make a bushel of apples. 2,150 inches would be a strict bushel and the law obliges us to give more than that.

Mr. WALLINGFORD: I think the statement was made that this Canadian box held just a bushel. Now the standard box which you use in Boston is 2,592 cubic inches. I have shipped apples to Boston in that box and I have tried it with the barrel, and three of those boxes are a little more than a barrel. And I think the statement was made here that these boxes would pack snugger in a car and therefore a man would get cheaper freight, and they were cheaper to handle. I think this is an error because they don't haul freight by the way it packs in a car but by weight. The box weight is given I think as about 60 pounds, and the barrel which would contain three bushels at 160,—so we pay a little more freight. While on the carting at Boston they charge by the package and the two boxes are charged the same for carting as one barrel. And the commission on the box is a little more in my experience than it is on the barrel because they have more packages to handle. I think before we take any definite action in regard to adopting the standard box and recommending it, we better not get our boxes too large but have one as nearly a bushel as we can.

Mr. LINCOLN: Three will hardly fill a barrel, especially with large apples. This is what they call the California box. And then, in regard to the freight I think the brother is mistaken, or else they don't carry their stuff as they do to our place. If we hire a car, we pay so much for the car and we can put in not to exceed so many thousand pounds. If we exceed that we have to pay extra freight for it. The barrels won't fill the car full enough to weigh what we are allowed to put in the car usually. And if we get in more, why we have to pay extra freight for it. That is the way we ship ours to Boston by car load lots.

Mr. WALLINGFORD: I will admit in the car load rate you might possibly get the weight there. But the minimum amount with which you are loading a car is 150 barrels which weigh 24,000 pounds. Now if we have more than that we have to pay for it extra. It is true you might possibly get the same freight

if you had a carload of these and give the weight as you would on the barrels.

Mr. MORSE: I would like to ask if they realize how the barrels are. I didn't until this fall. I bought 300 old barrels and before selling our apples I thought it was worth while to know how much they held and I took some yellow-eyed beans and put in even full and shook them down so as to be sure of what I was doing. It took three quarts more to fill one barrel, six quarts for another and 14 quarts for another. Now you can see that there is about as much variation in different barrels as there is in boxes.

The small barrel was a new barrel, had a standard head. I tried it with a Washburn & Crosby Gold Medal flour barrel and that held three quarts more than the new barrel, and I tried it with two or three other kinds and they varied from 3 quarts up to 14. I may say right here that I put my old barrels off in the chamber and bought new ones.

Mr. CRAIG: In figuring the Canadian box—comparing that with the one that Mr. Pope used, the vegetable box, and you would be giving away every eighth box of apples. I had the pleasure of attending a number of fruit meetings last winter and this same question was discussed, and I understand that Ontario and Quebec and British Columbia have all adopted this size of box that you have mentioned—10 x 11 x 21 isn't it?

Mr. POPE: It seems that if this Society is to adopt any particular size that we must confer with the other states and have all New England and New York and all the eastern part of this country adopt the same size, or else there will still be this same trouble when our boxes get to Boston, if Massachusetts people have one bushel box, Maine another, Vermont another, New Hampshire perhaps still a different one. We are not overcoming this trouble at all. That is why they call for this vegetable box with fruit in it—they all know what that bushel box is, they are satisfied to pay the price if we sell them one of those boxes. Until we can all agree through the Eastern States on one size, we better not adopt in the State of Maine any particular size,—that is the way I look at it—so as to have uniformity through the eastern part of the country.

Mr. KNOWLTON: This matter of an apple box has been under discussion by the Society for four or five or six years more or less, and no conclusion whatever has been reached. Well, it has

reached a point now where fruit growers in different parts of the State are seriously inquiring of us what kind of a box we recommend. They read the discussions here and they read the papers which tell about the advantages of selling in boxes, this box and that box, etc., and the question has come right home to me scores and scores of times the last two years, especially this year, "Why don't your State Pomological Society do something? Why don't you recommend something, so that when you talk about a box we will know what it means." And I have urged upon the committee, of which Mr. Lincoln is chairman, the importance of getting this matter in some definite form before the Society so that either at this meeting or at a future meeting we may feel like recommending to the fruit growers some box, and I hope that something of that kind may be done. As to myself, I prefer something like the bushel box. It is only my preference. I believe that a good deal in this world depends upon the appearance of the thing, and that size box, if it is well made, is certainly to me at any rate more attractive than either of the other sizes. That is only my individual preference. I don't care personally what size you take, but I think we ought to do a little something besides discuss it. Now you see from what has been said thus far we have run across a dozen different opinions, and it is likely, if every fruit grower would give his own, that there would be a dozen more. That shows conclusively that there is dissatisfaction with the barrel for fancy fruit.

Now if it is not best, if we are not prepared to take a definite step as to the size which Mr. Lincoln has recommended, let us take a step that will lead to it. If you want to do it in that way, it could be referred to another committee and let them chew upon it another year, and then when anybody comes to me or to any other officer of the society, we can say that the Society has got it under consideration in the hope of settling it next year. It is not very definite, to be sure, but if we cannot arrive at something I think we had better do it. I fear from the various expressions that have been given that the members of the Society are not prepared to say which size they prefer. As an officer of the Society I want something done, or hope something will be done that will lead up to a definite sized box. If it is a desirable thing to consult with other societies, very well. That is well enough. So far as the box in the market is concerned, the people in the West began shipping apples in boxes and they

have kept it up ever since. We flatter ourselves when we get to eating their apples by the side of ours that ours are a good deal better than theirs, but just because theirs are put up better than ours they sell for more money than ours. It seems to me that if we only get at it right that there is some remedy which we can apply. I should like mighty well to have Eastern apples sell in New York for just as much money as California apples, to say the least. I think the fruit growers of New York and the East have the first claim, at any rate on the Eastern markets, and we ought to do what we can to win them and hold them.

MR. LINCOLN: I think it would be well to refer this to another committee. My idea is the same as Mr. Knowlton's in regard to the box system. All I believe in is to have a standard size, a uniform box. I don't care what it is, only have something that is uniform, a standard, so that everybody will ship in the same size boxes.

MR. WHEELER: Bro. Pope wanted to sell some apples and he wrote to a commission house in Boston to tell him what he wanted and they sent him that vegetable box. It is evident that they wanted that kind of a box. It is evident that the people there want that because they can sell it better. If the people want that and are ready and willing to pay for it, prefer apples shipped in that vegetable box, it seems to me that is the box we want to ship apples in and is the one that we should endorse here today.

Prof. MUNSON: I would move to refer back to the same committee the question of the size of packages to be adopted, and further that this committee be instructed to, if possible, agree with representatives of other New England and New York associations as to the size of box to be adopted by all societies and report at the next meeting.

[Professor Munson's motion was given a passage.—*Secretary.*]

OUR ORCHARD MEETING.

THE PLACE WHERE IT WAS HELD AND WHAT ITS
PROPRIETOR HAS ACCOMPLISHED.

JOHN W. TRUE, New Gloucester.

"The orchard meeting—where it was held." To say that it was held at my house, my farm in New Gloucester, I think will answer that part of the question. There was quite a sharp rain in the morning which hindered a great many people from coming, but then it cleared off and we had a beautiful day. But not so many were present as there would have been had it been pleasant in the early morning.

I began farming in October, 1874, and in looking the situation over and getting advice from older people concluded that I had all the orchard that I could take care of. It consisted of four little orchards enclosed by stone walls and about sixty-five trees around the fields, most of those being small trees not in bearing. The two largest orchards were nearly all natural fruit, and the ground was full of boulders and entirely unfit for cultivation. I tried cutting the brush around the trunks and pruning, but I got no profit as I had no use for cider and did not care to *work up a trade* in the article. For the first five years I raised from ten to twenty-five barrels of grafted fruit. I was at about that time prevailed upon by a tree agent to buy ten Northern Spy trees, and I have had one or two good crops from them. They grew well and I got interested. I looked the farm over and I could see no place that I wanted to put into an orchard. At last I decided that the smaller cider-apple orchard could be used. I cut the trees down, took out the rocks and bought 50 trees, —25 Red Astrachans, 15 Ben Davis and 10 Baldwins, the intention being to graft the Astrachan to Baldwin. The Ben Davis came *Walbridge* and have proved valueless, both as they were and also as a stock for grafting. The Astrachans top worked to Baldwin have given the best results, making a fine tree, better than the Baldwin set from the nursery. In my work since I have never been able to take a good field for

orcharding, as I almost worship a clear field. Instead I have taken small lots that were producing nothing of value, rough and full of rocks and then if I failed I lost nothing but my labor.

My method has been to clear the land, set the trees and then raise crops year after year as long as anything would grow under the trees so that I can feel that the orchards have cost me very little, if anything, and the land is now the most valuable per acre of any on the farm. I have learned that for me the Baldwin is the most profitable apple to raise, and that I can get the best results by setting some other kind and top work to Baldwin. I have got good results from using the Red Astrachan, Wealthy, Talman Sweet and Spy. The Baldwin set direct from the nursery makes, in many cases, a poor trunk, the limbs making a weak union and the tendency is to split down with the first full crop of apples. I have put in many bolts but water will work in and then the end is not far off. There are many things that have been made plain through the teachings of this Society that were unsettled when I began to work among the trees. One is the distance apart that trees should be set. I was told by an old orchardist that 20 feet was the proper distance to set Baldwins but I have found, and I think it is universally accepted, that 30 or 35 feet is the proper distance for Baldwins. Ben Davis can go a little nearer. I became a member of this Society in 1887 and from that time my interest in fruit culture has been on the increase. I enjoy setting trees and then shaping them into just what is wanted. In small fruits I began with a few strawberries, then raspberries and blackberries were added, then came five or six varieties of plums. There were a few currant bushes on the farm and those have been extended to four or five varieties so that in poor seasons we have all the fruit that three families require, and in good seasons there is a surplus that sells readily in the neighborhood. There are now on the farm about 1,000 trees and the hope is that in the near future they will produce 1,000 barrels of apples.

Prof. Munson from the Experiment Station, Orono, is trying some experiments in fertilization and in cover crops of which I presume he will make reports from time to time. The more I learn about the cultivation of the apple the more firmly I am convinced that it can be made a paying business on many of our rocky hills of Maine.

LESSONS LEARNED AT THE ORCHARD MEETING.

EDWARD L. WHITE, Bowdoinham.

I am rather a young man in this business, and of course when I went to Mr. True's orchard meeting, I took my trip there as a young man.

I would like first, if you will pardon me, to describe my trip there. I took a term and drove some twenty-five or thirty miles and then took a train and went to Mr. True's farm. In going there, I left a section of country that had supplied the creamery, and in looking over their farms one may see the same slope that Brother True has, the hills of Maine sloping down into the brooks and valleys, rocky lots sloping onto the clay, and in the creamery section you would see the fodder corn growing nicely, and upon the hill of course you would see the orchards scattered around—no leaves to speak of, that is, if there were any they were pale, no fruit,—that was evident. Once in a while you would see the hogs at work in them,—very seldom. But the corn patch to support those cattle—what was that? No weeds in that and it was good corn.

Going a little further I came into the section of the country that was supplying the corn factories. I didn't see any corn factories but you could see that it was sweet corn growing there. No weeds in the corn. Still the orchard was on the side hill, neglected. You could see their potato patches every little while—no weeds in the potatoes. Still the orchard situated just the same.

In getting to Mr. True's what did we find? We found his house situated on one of the hills of Maine, his farm sloping off to the eastward into the valley of a river. Down in the valley he raised his hay, you could see. In his orchard what did he do? Did you see his potatoes and corn down in the valley? No, he had the whole thing combined. It seemed as though he had his arms right around the whole of it,—his potatoes, corn and apples. No neglect there. His corn he cultivated so that you could hardly see the trees in some of his young orchards. His potatoes would cover the ground so you couldn't see the rows. Were his trees pale? Was the fruit scant? No. Take one of the leaves off of Mr. True's trees, feel of it in your fingers. It feels as though there was something to the leaf, some thickness there, good, solid green. And the fruit was fine.

That was my trip to Mr. True's orchard. That was the section of country that I went through and what I found there.

What were the lessons that I learned while I was there? Very often a young man of my age, particularly if he graduates from high school—I don't know as it is so much so now as it was then—if the principal happens to be a graduate of some college, he will come along to you—"Why don't you go to this college or that college, classical college, and take a course there and teach for a few years, and if you don't like it, take up some profession rather than agriculture, like a doctor or lawyer or something, and then after you get your money there, why retire and live on a farm?" Just the same as to tell me if I retired myself onto the farm at the age of eighteen or twenty when I graduated from high school, I would retire, get out of sight on the farm.

What do we find at Mr. True's? He left there when he was nineteen and came back when he was twenty-six. Did he retire when he came back there? No. You that are acquainted with the history of the town of New Gloucester will find how many years he has served on the board of selectmen and other municipal offices, and served his own town in various other capacities. And look up his record there? Did he retire from business? No. You find that a young man can go onto one of our farms situated on the hills of Maine and make an outside record.

We learned the cultivation of the orchard, of which I told you before. But the principal point, I think, with all of us was emphatically represented when we went to dinner and found the bountiful feast before us.

In driving into his orchard, looking on the right hand of the driveway the first thing that took our attention were the blue plums, bending the limbs down. In going out through the orchard, he showed us the different rows of trees grafted on the Astrachan stock, etc. Then in going out around we came to his corn patch,—a small corn patch situated outside—coming down around where the hogs were, where Prof. Munson is at work, and coming back a little back of his house, we found there the luxuries of city life, currants, gooseberries, strawberries, plums. The plums we could not see the leaves on the trees. And when we went in to dinner we found a feast set before us, something that you could not buy in any hotel for a dollar a meal, I will warrant you.

And the home,—what was it? A little remark was dropped while we were there. While sitting at dinner, some one looked up to Mrs. True and said: “Aren’t you tired? Don’t all of these folks cause a good deal of work for you?” “Oh, no! I have plenty of helpers.” And as already stated, he has three families there with him. You see he has brought his children up to stay at home on the farm and make an ideal country home.

And is this home an expense? Is the fertilizer an output that he puts into his orchard? No, he has fixed it so that they all cooperate. His crops that he takes from them pay for his fertilizers. His corn, beans, potatoes,—all his garden stuff is there,—and his hay is in the valley.

So these are the three principal points that I learned when I went to the orchard meeting: That the hills of Maine can be converted into profitable farms, and that the young man does not retire when he takes up this work.

Secondly, that the cultivation of the orchard can be so arranged that it will not be an expense, the crops that he takes from it yearly paying for the fertilizer.

And thirdly, that there is an ideal home for a young man to live in.

RESULTS OF FERTILIZING AND CULTIVATING.

By V. P. DECOSTER, Buckfield.

The time has come when we have got to put brain work into our fruit growing. When our farms were first cleared and we commenced to work the soil it contained all the elements required to produce good crops of fruit as well as other crops. Now we find the conditions different, for so much has been taken from the soil that trees and plants are hungering and thirsting for what they cannot find, and it becomes necessary for us to supply the missing plant food if we want to get the best results. We learn what is needed by experimenting ourselves or by studying the work and experimenting of others. Our Experiment Station at Orono is doing much to help us and I believe we underestimate the grand work being accomplished there. Prof. Munson who has charge of the horticultural work there is a sincere worker and has great faith in the future of Maine fruit growing.

Under Professor Munson’s directions fertilizing experiments are being conducted in the orchard of Chas. S. Pope, Man-



"Orchard meeting." A group at the residence of John W. True, New Gloucester. Photograph
by W. M. Munson.

chester, and in that of John W. True, New Gloucester. No doubt but he makes mistakes and failures but at the same time these experiments are teaching the fruit growers of Maine many valuable lessons. Above all they clearly show that we have got to do something for our orchards if we would succeed. I shall speak of these experiments later.

I believe that over one-half of the fruit trees that have been set out during the last fifteen years have never paid the first cost of the tree. The trees, as a rule, are all right but the fault is with us. We are allowing the trees to starve to death. Nothing on our farms will show good care quicker or make a surer return than a fruit tree. More than this there are thousands of trees by the roadsides and fences that are a damage to the owner and all his neighbors. They are the breeding-places of borers, codling moth, trybeta and I fear we may soon add the brown-tail and gypsy moths. Now if a tree isn't worth caring for cut it down. Josh Billings says, "Advice is like castor-oil, easy to give and hard to take." Now I am ashamed to say I do not do this. There are lots of the best farmers who grow weeds with their crops, they know better but it is a fact. I sum it up like this: With the scarcity of help we fail to do as well as we know. Some of us are learning better and if you pass my way and find I am not giving these things attention, remind me of it and you shall have as good a dinner as the farm affords. When I find a nice piece of corn or potatoes or a fine orchard I make up my mind there has been some brain work as well as muscle work there. I am desirous to know how it has been done and what methods have been adopted that I may profit by it. Sometimes a person may do ever so well and then comes a freeze or a drouth or floods to blast his hopes but in the end such disasters usually work for our good.

I believe we are making a mistake in allowing our trees to bear too heavily. I believe a tree properly dressed, pruned and thinned will bear every year. When a tree is allowed to overbear it brings such a strain upon the tree that it takes years for it to recuperate. All small and wormy fruit should be picked off before it ripens. It is just as much a strain on the tree to grow the seed in a small or wormy apple as in the best specimen. And when such apples are picked they are good for nothing but to feed out. When I was at Mr. Pope's a little over a

year ago, he showed me a Baldwin tree that he had thinned. This year I was in the same orchard and my attention was called to the same tree which was well loaded with good fruit.

I have made it a point to visit some of our most successful fruit growers and to ascertain what they are doing for their fruit trees and what results have followed. I wish to say here that I am not advertising or recommending any special fertilizer.

During the fall I visited Mr. W. O. Breed's orchard in Harrison. He believes Maine is to become a great fruit State. In going through his orchard I found it full of swine and they had worked over nearly the whole of it. When I asked Mr. Breed if he used any commercial fertilizers he said, "Yes, though I did not do it last year but had I done so it would have added \$500 to my fruit crop this year. The year before I raised 1,600 barrels." We should realize that the tree must be fed the year before to grow and set fruit buds for the following year. His crop this year was about 500 barrels. He is making quite a success of growing peaches and picked five bushels from one tree this year. He uses a commercial fertilizer made from the Fisher formula which is as follows:

Nitrate of soda, 350 pounds,
Sulphate of ammonia, 150 pounds,
Sulphate of potash, 230 pounds,
Acid phosphate, 220 pounds,
Keiserite, 50 pounds.

The manufacturers as yet have not made the fertilizers and hence it has been necessary to buy the ingredients as above and mix them by hand with hoe or shovel. It is not a difficult task. The screened nitrate of soda works better than when taken from original packages, as it is finer and mixes without leaving lumps.

Mr. S. H. Dawes, who has the enviable reputation of raising more prize fruit than any man in Maine, owns the adjoining farm and I called upon him. He was busy gathering pears and such pears it would almost take a cantdog to handle them. He had a large crop of pears. He had just harvested 65 bushels of plums. He has raised the past two years large crops and it was too much for the trees. It has been his custom to fertilize only the fruit-bearing trees which I think was a mistake. He showed me one row of Baldwin trees which he had fertilized every year and there was a marked difference. From that row

last year he got 18 barrels more fruit than from the row next to it to which he applied no fertilizer. He uses the Fisher formula and makes his fertilizers by it. Mr. Dawes called my attention to an orchard adjoining his where the trees were of the same age but had received no fertilizers and there was a marked contrast that showed the benefit of the fertilizer.

I also called upon Mr. F. H. Morse of Waterford, and I found him to be a man who had put in some brain work into his orchard and had used good judgment in his fruit culture. His home farm borders on a lake where he has a Stark orchard of 90 trees. They were grafted in the limbs on Talman stock, the trees having been set twelve years ago. In 1902 he raised 14 barrels of apples; in 1904, 88 barrels and in 1905 about 200 barrels. These trees have been grown entirely on commercial fertilizer, consisting of the following:

Muriate of potash, 600 pounds,

Ground bone, 600 pounds,

Nitrate of soda, 200 pounds.

This has cost him from 20 to 25 cents per tree, sown broadcast around the tree. The soil has been cultivated but no crop was taken off save the fruit.

One tree, standing in the corner was off in fruit as well as color of foliage. He told me that tree had received some fertilizer but was not cultivated. It was an excellent illustration of the advantage of combining fertilizing and cultivating.

I also visited his Baldwin orchard which is located some one and one-half miles from his home upon a high elevation. This contains about two hundred trees that have been grafted into Talman Sweet trees. In 1903 there were 375 barrels of fruit; in 1904, 750 barrels; in 1905 about 500 barrels. This orchard has been grown with commercial fertilizers and sheep. It has not been plowed for four years. He now uses muriate of potash and ground bone in equal parts and allows the sheep to supply the nitrogen. He sows broadcast around the trees at an expense of 20 cents per tree. The trees were making a good growth and the foliage was green and the buds were setting well for next year.

In Mr. Chas. S. Pope's orchard the Experiment Station is conducting some important experiments along the line of fertilizing and cultivating. There were several different chemicals

used. To show the effect of the fertilizers check rows were omitted when the fertilizers were applied. You could see the difference in the color of the foliage. One plot was dressed with barnyard manure and it seemed to me the chemicals showed better results, especially those containing nitrogen. The expense in the different experiments was nearly the same. A portion of the orchard had been pastured with hogs and wherever they got in their work good results were apparent both in foliage and fruit.

It appeared to me in the orchards I visited that the continued use of commercial fertilizers, sown or spread upon the grass ground will cause the grass to become root-bound and hard and you do not get the results sought. Cultivation aids the chemicals so that better results appear than when omitted, and when cultivation without the application of any fertilizer has been employed both trees and fruit have been improved.

Solon Chase who raises from \$250 to \$750 worth of Northern Spies every year uses no commercial fertilizer but uses the plow and the harrow. He applies what home made dressing he makes on the farm and raises corn and potatoes among his trees. His trees were healthy and growing well.

Mr. Chas. S. Phinney of Standish is making a great success in growing fruit on commercial fertilizers. He uses the Bowker fruit fertilizer and sows at the rate of 500 pounds to the acre. He supplements this with cultivation. His trees look well and show good care.

Mr. A. S. Ricker, who is one of the largest producers of fruit in the State, believes in cultivation. He applies all the barn manures of the farm and supplements it with commercial fertilizers of some kind.

The result of my observation is that the orchardists who are getting the best results are fertilizing and cultivating their orchards. Some are doing it in one way and some in another. The neglected orchards in the State show what the absence of fertilizers and cultivation is doing and the contrast is so strong that one may read the lesson every day as he drives about the country. Many are profiting from these lessons, but the sluggard learns slowly and sometimes turns about indifferent to all he sees. The wise man, the thoughtful observer is not so and therein comes the great value of the several orchard meetings we have held in the State.

Mr. HARDY: I would like to ask the gentleman what time, what size or stage he would recommend thinning the apples.

Mr. DECOSTER: They should be thinned the first of July. It is not all apples that need thinning. Rhode Island Greening, Northern Spy, don't need thinning. I don't know as the Ben Davis does. I am not a Ben Davis man, don't raise but a very few. But more especially the Baldwin, they should be thinned by the first of July. I wish you would experiment, gentlemen, and note the results.

Dr. TWITCHELL: In the President's address this morning, you remember he emphasized the necessity of cultivation and fertilization as solving the questions in the future relative to our orchards, and Prof. Munson said to me coming up yesterday that they had taken three or four successive crops of Baldwins from certain trees and he believed that it should be credited to the cultivation and fertilization of the trees. If that is so, then we are to solve some of the vexed problems of the future by higher fertilization and cultivation. Having tried a little experiment this summer on the farm, I took a photograph of some of the trees and brought one of them with me simply to illustrate what can be done at very little expense. We applied some of Fisher formula to 200 trees, leaving out some, so that I might see the difference. Mr. Gilbert was there in August and went over the trees and expressed his surprise at the thickness and strength and hardness of the leaf and the growth of the grass underneath, and also the marked growth of new wood. I have a photograph taken about the 12th of September which shows the second crop of grass growing about the trees, covering the space where the ten pounds of fertilizer was spread. What is most marked, these trees are old, have not been touched for ten or fifteen years, nothing been done to them,—and yet those old neglected trees made a wood growth this year of from two feet to two and one-half feet, giving promise of something in the future which I hope may be of value. Now I do not think that can be attributed to anything excepting the application of ten pounds of Fisher formula, costing about twenty-eight cents a tree. I would not follow that another year, but I would put in some other form of fertilization, or cultivation—something different—but to give old trees a start and set them at work in the right

direction with a view to improvement, I thought it might serve as an object lesson.

EXPERIMENTS IN ORCHARD FERTILIZING.

Prof. W. M. MUNSON.

According to Prof. Roberts of Cornell University, the average value of the fertilizing elements taken from an acre of soil by apple trees during a period of twenty years, counting in ten crops of fruit, is approximately \$377. Of this amount \$147 or a little more than 39% is in the fruit; \$160 or about 42.5% in the leaves; and \$70 or about 18.5% in wood for the growth of the tree.

The total amount of nitrogen, exclusive of that used in the growth of the tree, is about 1,300 lbs.; of phosphoric acid 310 lbs.; and potash 1,900 lbs. per acre. "To restore the potash alone, as above, and that used by the growth of the tree, it would require 21.69 tons of high grade ashes containing 5% potash. To restore the nitrogen would require 16.19 tons of commercial fertilizer containing 5% nitrogen."

When we add to the amount here mentioned the large amounts of fertilizing elements removed by crops of hay, or grain, or by pasturing the orchard without giving extra food to the animals, is it any wonder that some of the older orchards of the State are beginning to look feeble and are in many cases ceasing to be productive? How many orchards in Maine during the past twenty years have received the equivalent of an average of a ton of ashes and 400 lbs. of nitrate of soda per acre each year?

Of course the fact should be taken into account that a portion of the material above referred to is returned to the soil in the way of fallen fruit and leaves and in the excrement of animals; but with a liberal allowance for these returns the value of fertilizing elements actually removed from the soil during the period named will probably not fall short of \$200, or \$10 per acre.

Now while the old hillsides of New England constitute a vast storehouse of food material, and our apple trees are best fitted to abstract the store and put the material in a form suitable for

the use of man, there is a limit beyond which the tree can not go without help. As is well known, tillage, the stirring of the soil, no matter by what means, is the best way to unlock the natural supply of fertilizing material; and this is the first help which should be given the tree in its struggle—I almost said struggle for existence. While the importance of tillage can not be urged too strongly, this is not all. A check book is a convenient medium by which to draw money from a bank, but the supply of money in the bank must be replenished from time to time or checks are of little value.

In studying the methods of fertilizing of orchards, of course we recognize that the same general principles apply as in the management of other farm crops. The essential constituents must be the same, but unlike ordinary farm crops, orchard crops do not give an opportunity for rotation. A certain amount of nitrogen is essential to the vigorous foliage upon which depends the life of the tree. Potash also is important, not only because it constitutes a large part of the ash of the wood of fruit trees, and more than half of the ash of the fruit itself, but also, as suggested by Voorhees, it forms the base of the well known fruit acids. Lime, as likewise pointed out by Voorhees, “seems to strengthen the stems and woody portion of the tree, and to hasten the time of ripening. Fruit trees growing on soils rich in lime show a stocky, steady, vigorous growth, and the fruit ripens well, while those on soils which contain but little lime, particularly the clays, appear to have an extended period of growth, the result of which is that the wood does not mature and the fruit does not ripen properly.”

How to fertilize a bearing orchard is one of the special lines of investigation with which the Experiment Station has been concerned for some years past, and in which every progressive orchardist of the State is interested.

In 1898 an orchard of eighty trees, Talmans and Gravensteins, on the farm of Charles S. Pope was selected for a comparative study of the use of stable manure and concentrated fertilizers. One-half of the orchard was cultivated and the remainder was mulched. Careful records of the growth and yields of these trees, as well as of adjacent trees, which received no fertilizer, have been kept from year to year.

The results obtained up to the close of the growing season of 1902, were published in Bulletin 89 of the Experiment Station

and need not be dwelt upon at this time. In general terms, it was there shown that, "With a single exception, in which two trees had particularly good advantages, the growth on the mulched area was less than upon the corresponding cultivated plat. On the cultivated soil there was little increase in growth from the use either of stable manures or of commercial fertilizers; while on the mulched land the growth was noticeably (2 to 5 inches) greater, as a result of adding plant foods. These facts would indicate that there is enough plant food in the soil to produce a fairly satisfactory growth, if the mechanical treatment is such as to render it available, and other plants are not allowed to rob the trees."

Subsequent developments have justified the statements here made. For several years the unfertilized trees held their place very well, both as to growth and to yield; but during the last two years the need of additional plant food has been plainly manifest, even on the cultivated area.

Without going into details (for these will be published in a few weeks in a Station Bulletin) it may be said that on the particular soil on which these experiments are conducted, somewhat better results seem to have followed the use of the stable manure than that of the concentrated fertilizer. This, no doubt, was partly due to the humus which was required to put the soil in the best mechanical condition.

THE "RENOVATION ORCHARD."

Three years ago, because of the manifestly favorable results following the treatment given the orchard above referred to, one hundred trees were set apart for specific experiments in the renovation of an orchard. The trees in question were about thirty-five years old, planted on the western slope of a dry gravelly hillside. They were divided into six groups, as indicated in the bulletin above referred to, with appropriate check trees.

One plat was given a complete fertilizer made up of muriate of potash, acid rock and nitrate of soda; a second was given a muriate of potash and acid rock without the nitrogen; a third nitrate of soda and acid rock, without the potash; while the other three plats were given one element each—acid rock, muriate of potash, and nitrate of soda. The orchard has been well pruned and clean culture has been practiced every season.

At the end of the first growing season it was noticed that, as might be expected, the plat receiving a complete fertilizer presented the best appearance. The use of nitrogen alone increased growth to a marked degree (though less than the complete fertilizer) but there was a noticeable lack of color in the fruit. Trees on the plat receiving acid rock alone, in general seemed no better than the adjacent check trees which were cultivated but not fertilized. Potash alone on the other hand, produced a distinct improvement."

Succeeding years have to a large extent repeated the experience here recorded. This particular soil is evidently in need of nitrogen and potash, while the phosphoric acid is not required. In every case the plat receiving complete fertilization has given the best results both in growth of tree and in fruit.

In 1903 a very serious injury to both trees and fruit was apparently the result of a too free use of nitrogen on the plat receiving nitrogen alone. The foliage dropped; the fruit cracked, and much of it dropped, while the remainder was as soft and mealy in October as it should have been the following May.

In passing, it may be said, that since the first year, this orchard has made a good growth and has yielded annual returns of fruit; thus showing beyond question that Baldwins may be made to produce every year if fed with that in view. Taking at random some of the trees in this orchard, we find that tree 11 in 1903 produced $4\frac{1}{2}$ barrels of fruit; in 1904, 1 barrel; in 1905, 2.8 barrels. Tree 25 produced 8.5, 4, and 5.8 barrels for the three years respectively; tree 53 gave 5, 2.7, 3.3 barrels and so on. It must not be understood, however, that all trees bear every year, for such is not the case. For instance, tree 43 has a record for the three years of 0, .7, and 0 barrels. Tree 75 is gradually improving, the record for the three years being 0, .8, and 1 respectively.

THE FISHER FORMULA.

As is well known to some members of the society, a comparison is being made in the orchard already referred to, as well as in the orchard of John W. True of New Gloucester, between the highly nitrogenous fertilizer made after what is known as the "Fisher formula" and a less expensive, because less highly nitrogenous, fertilizer compounded for our own work.

Briefly stated, the Fisher formula is composed of about 8.6% nitrogen, 11.9% phosphoric acid, and 3.3% potash, being made

up as follows: Nitrate of soda, 350 lbs.; sulphate of ammonia, 150 lbs; sulphate of potash, 230 lbs; acid phosphate, 220 lbs.; kieserite, 50 lbs. Unquestionably this fertilizer produces a most vigorous growth, resulting in large, though not always well colored fruit, and on uncultivated land is regarded with favor by many growers.

The Station formula contains about 3% nitrogen, 5½% phosphoric acid, and 8 % of potash, being made up of 200 lbs. nitrate of soda; 75 lbs. sulphate of ammonia; 225 lbs. muriate of potash; 500 lbs. of acid rock—in each 1,000 lbs. The Fisher formula costs about \$21 per 1,000 lbs., or 21 cents per tree for each application; the other \$16 per 1,000 lbs., or 16 cents per tree.

Twenty Baldwins and five Talmans are being used for the specific test of each of these formulas. The Baldwins are kept under cultivation; the Talmans are in sod. The work has been in progress for two seasons, which time is of course not sufficient to warrant conclusions. Both lots of trees have responded freely to the treatment, and yielded a good crop of fruit this year. The Talmans also bore well last year, while the Baldwins were in an exhausted condition when the work was commenced. All are now making a remarkably strong vigorous growth, and promise well. It should be said, however, that as in the experiments first mentioned the stirring of the soil, and the decay of the turf in case of the cultivated trees, obscure any specific difference in the relative merits of the two formulas up to the present time.

Mr. MORSE: I would like to have Prof. Munson explain a little about the variation in these fertilizers. Some who have been buying have got low grade material.

Prof. MUNSON: I should say in all of these it pays to buy the best grade of everything. In buying commercial fertilizers, you cannot afford to pay freight on coal ashes and sand, and that is what it amounts to when you buy low grade fertilizers. I would simply say that in buying fertilizers of this kind, the proper way to do is to make out a list of the amounts of material that will be needed to cover the number of trees that you have and send that list to the Bowker people or the Sagadahoc people and get them to give an estimate as to what they will furnish the material for, and specify that only high grade goods are to be employed; and then order it where you can get the best terms.

A LADIES' NIGHT.

A WOMAN'S WORK IN FRUIT GROWING.

LILLA M. SCALES, Temple.

In the good old days of our great grandmothers, a well ordered garden was as necessary to their existence as the spinning, knitting and weaving of wool and flax for the household. What good dame thought of attending meeting of a Sunday morning in summer without her bunch of clove pinks and southernwood! carefully gathered on Saturday and left out of doors to keep fresh and sweet in the dew over night.

In those quaint old gardens often bordered by hedges of clipped box, grew lovely damask roses, bee larkspur, hollyhocks, great clumps of purple lilacs, beds of sweet lavender for the linen chest; the kitchen herbs, too, grew there—sage, summer savory and the mints; while in secluded corners were the medicinal herbs, sweet clover, motherwort, the beautiful crimson balm—simples to be gathered in mid-summer or they would lose their healing virtue.

Those gentlewomen were proud of the well kept rows of red and white Dutch currants from which yearly were made dainty jellies and preserves from famous receipts, which have been carefully handed down to their descendants with the cherished pewter and rare old china. Those fine old gardens were not left entirely to the care of a gardener. In a recent magazine article entitled "When Longfellow was a Portland Lad," the author says, "Mrs. Zilpath Longfellow, the mother of Henry Wadsworth Longfellow, was one of the garden loving dames, and spring and summer was seen with a negro servant working among her flowers. Sometimes, a little nankeen figure strayed by her side—a dancing sprite that wandered off among the flowerbeds and caused her to call chidingly, 'Henry, do not hurt your mother's posies.' The great poet as an elderly man often thought of his mother's garden in the Forest City, where the robins and the bluebirds came back every spring to flit over shrubs planted by her hands."

Martha Washington's garden at Mt. Vernon was laid out in squares, triangles, hearts and other devices, each separate bed bordered with box, a garden wherein she delighted to work.

The Nation owes an immense debt of gratitude to a woman, a Mrs. Pickens of South Carolina who for many years labored unremittingly for the restoration of Mt. Vernon; with the aid of Washington's papers and the help of the gardener she was enabled to restore this picturesque and historic old garden.

In these modern days we have heard a great deal about "The Man With the Hoe," but the "Woman With the Hoe" is rapidly coming to the front and not only with the hoe but the saw, pruning knife, wax and scions for fruit growing as well as gardening seems especially adapted to women. However to any one who is desirous of making a specialty of any particular line of small fruit I would say, "First, consider carefully your soil, elevation and distance from a prospective market before investing in what may prove to be an uncertain crop with only an indifferent market for your products." For instance, currants with us under apparently the most advantageous circumstances are never to be depended on as a fruit for profit. Early in May we had three rows each seventy-five feet long in full bloom, the bushes bending heavily with the weight. We awoke one morning to find there had been a severe freeze during the night and leaves and blossoms were frozen stiff. By carefully spraying each row twice with cold water before the heat of the sun had begun to thaw them out we hoped that the injury would prove slight, but alas! the cold the next night was more intense and while spraying the next morning icicles an inch in length would form all over the plants; we saved the foliage which was our chief aim in spraying and a small quantity of fruit.

In our next neighbor's garden on sandy loam and in close proximity to a large stream the currant bushes suffered no injury, the elevation above ours so slight as to be scarcely perceptible. Fortunately it was too early in the season to affect the strawberry crop. The strawberry it seems to me is the one small fruit for women to raise and it requires the most work too. Leave your beautifully clean rows for three weeks and then behold them; weeds galore have sprung up; the runners are every where except in the right place, and you feel at times that if you were sure of the munificent sum of ten cents a day for

your labor it would be more than you could reasonably hope to receive.

We set our plants exactly two feet apart in raised rows which are made three feet apart using the late runners from the bearing bed. We have tested many varieties but all have proved worthless with us except the "Crescent Seedling" and "Lovett's Early." Just now we are experimenting with the "Glen Mary" and "Marshall," the latter we think will prove especially desirable for under the most adverse conditions, the roots eaten by the grub, the ground tunnelled by the mole in search of the white pest, yet where there has been anything left of the root the plant sends out large dark, glossy leaves, and every late fall runner sends up a flower stalk; the color and size of the fruit is exceptionally fine.

While no rain fell the past summer during the picking season and the weather was excessively warm our strawberry crop did not sustain the least injury from drought or the scorching rays of the sun. The plants were so large and vigorous, that the fruit was sufficiently nourished, and entirely protected by the heavy foliage while a deep mulching of pine needles spread on the fall previous prevented the moisture escaping from the ground.

We find as a rule the strawberry a sure crop and if the berries are kept up to a high degree of excellency, carefully picked into perfectly clean baskets there is no lack of market.

I have never heard or read anything in regard to the pollenization of strawberry plants by bees but have noticed whenever the bees work the strawberry blooms the fruit is more perfect. This year the blossoms were uncommonly fragrant and the bees worked them more than they ordinarily do; we never found an imperfect berry and we had no more fertilizers than usual.

We have vainly endeavored to raise cherry, plum and pear trees—the flamboyant pages of fruit catalogues advertising the "earliest known varieties;" that will give a paying crop the third year from planting, and flourish in any soil from Labrador to Florida, have no longer any charm for us—we have wasted too much of our substance, not only in new varieties but in standard sorts as well. Also they have been planted and cultivated with care; in a year or two the leaves of the plum and pear turn yellow, the bark of the cherry cracks open; soon all are consigned to the brush pile. However, we have not

despaired of a small plum and cherry orchard in the future, for on a well drained, gravelly knoll we have planted many of the pits hoping to raise some hardy stock for grafting; although this may not be practical it seems to be our only solution of the problem at present of raising these delightful fruits.

We also aspire to an apple orchard for the orchard is the crowning glory of our Maine farms.

To quote a Japanese writer: "Our old New England orchards are as beautiful in spring as the flowering of the plum and cherry trees in Japan." There the whole world takes a holiday and goes forth to worship the beauties of nature. If we do not emulate our Oriental friends and take a holiday, we perhaps appreciate the beauty as much. Do you not all watch for the first signs of fruit buds ere the snow has fairly disappeared? How fearful you are lest the "Rough winds do shake the darling buds of May."

The orchard in early June with its "glorious burst" of bloom, all pink and white, the delicate green of the leaves hardly perceptible, the busy hum! hum! of the bees gathering nectar, the softly falling petals, the call of the oriole, the light flickering through the branches, the purple haze on the distant hills give an undefinable atmosphere of rest. "Such peace as the town, save in dream, knows never." But not with the passing of the spring does its beauty depart. The foliage deepens and nearly hides from view the tiny forms of the apple that are soon to become rounded into glorious spheres of red and yellow and crimson by the sun.

The advice of that veteran enthusiastic orchardist, the late, lamented Mr. Gideon K. Staples was: "Plant apple trees, plant apple trees, if you lose ninety out of every hundred keep right on planting," that was his experience and we all know the result of his labors.

Some of our native trees and shrubs, wildings of the woods and swamps are most beautiful in flower and fruit and deserve a better place than is usually given them or rather where they are allowed to grow; and also are of great value as they call to our homes and gardens many song and insect-eating birds which would otherwise not be found there.

Among these is the June berry the first of the great rose family to greet us in the spring, with its branches full of long, loose racemes of bloom; place two or three of the slender sprays

in a tall, clear vase for the dining table or living room and if you have never used it before for decorative purposes you will be delighted with the result.

The tree itself has such a trim, neat habit that properly pruned it is pleasing to the eye the year round.

Our native hawthorne or wild thorn is most exquisite in bloom and especially so after the fruit is matured. The leaves drop early in the season but the sharp thorns give an artistic setting to the dark tipped scarlet berries.

Another is the wild high bush cranberry. It bears transplanting well and responds readily to cultivation; the bush honeysuckle, so universally planted, cannot compare with it, the berries are a most brilliant red and the foliage remains on till late in the autumn and after the first frosts lights up a perfect blaze of glory in the sunshine.

Multitudes of our native little brown birds in search of food fill the branches of the Virginia creeper which partially covers our house soon as the leaves have fallen.

But the elderberry is the bush par excellence to entice the birds around the premises, not only are the great creamy white cymes of bloom very effective, when seen at a distance, but later as soon as the berries begin to turn purple the birds congregate on them early every morning, before the sun has fairly risen, the bushes will be actually blue, so many bluebirds come for their breakfast, perfectly fearless of any one standing near or passing by. This by no means completes the list of wild fruits both useful and ornamental. I do not believe in a tangle of wild shrubs about the house simply because they are beautiful growing in their native woods, but a few judiciously planted are most attractive or when left to grow beside a country road where they do no harm and are much more desirable than the worthless alder bushes which spring up everywhere.

Nature covers old walls and unsightly fences with clematis and woodbine, young trees grow up and conceal the blackened stumps of the denuded forest; even on the barren desert where there is a spring of water the weary traveller finds green grass and the comforting shade of the palm.

Life should not be all sordid and practical but in harmony with nature's teachings, "beauty is an all-prevailing presence" and the more pleasing our surroundings the more enjoyment in living.

Vines, flowers and small fruits should not be considered luxuries but necessary adjuncts to the farm home and if the women on the farms could realize what they might accomplish with a little labor the city would be far less attractive for the young people who every year so eagerly flock to our great centers of industry in search of employment—and enjoyment.

Country life is often called “isolated” and “dreary;” no doubt it was in the past to a great extent but the rural mail carrier with his daily round and the many “farmers’” telephone lines have changed all this and the remote dweller in the country is now in touch with the whole world.

Some of the most famous *prima donnas* are more than amateur gardeners. Calvê retires in summer to her country home among the mountains and donning the peasant costume, deftly wields hoe and spade, often sending baskets of fruit and vegetables of her own raising to her friends in Paris. She says she owes her voice and superb health to wooden shoes and potatoes.

An English countess has at great expense opened a “school of horticulture” for young women where they are given scientific training, also Fraulein Bertha Krupp, the owner of the largest gun works in the world, has recently become interested in gardening and will start a school at Essen where girls may learn the trade. Such examples ought to be a great inspiration to the women of today as they show the high esteem which is placed upon horticulture as an employment for women.

Mrs. Hemans in her delightful poem “The Spells of Home” paints an exquisite picture of rural life:

“By the soft green light in the moody glade,
On the banks of moss where thy childhood play’d,
By the household tree through which thine eye
First looked in love to the summer sky.

“By the dewy gleam, by the very breath
Of the primrose tufts in the grass beneath,
Upon thy heart there is laid a spell,
Holy and precious—oh, guard it well.

“By the sleepy ripple of the stream,
Which hath lull’d thee into many a dream,
By the shiver of the ivy leaves
To the wind of morn at thy casement eaves,
By the bees’ deep murmur in the limes,
By the music of the Sabbath chimes,
By every sound of thy native shade,
Stronger and clearer the spell is made.

* * * * *

"Yes, when thy heart in its pride would stray
From the pure first loves of its youth away,
When the sullyng breath of the world would come
O'er the flowers it brought from its childhood's home—
Think thou again of the moody glade
And the sound by the rustling ivy made—
Think of the tree at thy father's door,
And the kindly spell shall have power once more!"

A WOMAN'S WORK IN ORCHARDING.

MARY AUGUSTA BASS, Wilton.

When your secretary asked for a paper giving the experience of my sister and myself in orcharding, my first thought was that such a paper would be short and uninteresting. But after a little consideration of the subject I found it a longer tale than I had imagined.

The original seven acres of our orchard land was purchased by my father, Mr. S. S. Bass, with the first money earned by him after he became of age. He afterward added adjoining land making in all a tract of about twenty-five acres, seven acres of which was wood land and the rest grass and pasture land.

He did not begin to plant trees until about 1870 after he had moved to Wilton village. The trees were set, a few at a time, during a period of twenty or twenty-five years, until the eighteen acres of cleared land bore nearly nine hundred trees. For many years he devoted to the orchard only the time which he could spare from his other business but as the orchard grew and required more attention, he became more and more in love with the work and came to have a firm belief in the future success of the business. He set native trees of natural fruit because he thought them more hardy than New York trees. More than half of them he grafted to Baldwins and nearly all the rest to Harveys and Ben Davis. All kinds of orchard work he did with his own hands—setting the trees, grafting, trimming, mulching, fertilizing, bridge-grafting, spraying, fighting insects and mice, harvesting, packing, shipping. About ten years ago

he built a storehouse in the orchard to receive the apples while harvesting. There being no cellar, however, the fruit cannot remain there long.

During the early nineties, as you all remember, the apple business was at a low ebb and the caterpillar years which followed made matters still worse, so after my father's death in '99 we found it impossible to sell the orchard except at great sacrifice. Consequently we decided to keep it for a while and carry it on as best we could. Ere long we found that we, too, had caught the orchard fever and we have already refused to sell for more than twice the amount which we were first offered. This is how my sister and I have come to be in the orchard business. As she is a teacher, the management of the orchard has fallen largely upon me.

Our first year was a discouraging one, being the worst of the caterpillar years. We were fortunate, however, in securing a reliable man to spend his whole time in the orchard during caterpillar time and he did his work so faithfully that the foliage was saved and the trees were uninjured. The apple crop, nevertheless, was small.

The next spring we hired a man to remove the caterpillar eggs from the trees and burn them. That year, as you doubtless remember, the caterpillars hatched in large numbers but were soon destroyed by a parasite, so that orchards suffered little.

Just before the harvest time there came a high wind which left us with about one hundred fifty barrels on the ground. What to do with them was a serious question. There seemed only two ways open—either to sell them at the cider mill, or sort out the best and destroy the others. We saw that the matter of selling apples for cider must be decided once for all. We considered carefully and decided against the cider mill. We could not take the position we wished on the temperance question when there was a possibility that our financial gain had been the means of some poor fellow's undoing. We resolved that we would never knowingly sell apples for cider unless we were sure that it was to be turned into vinegar. We have kept our resolution.

But what should we do with those one hundred fifty barrels of windfalls? A good friend who approved of our decision, came to the rescue, and obtained for us a chance to send them

in bulk to the coast of eastern Maine. So we dumped them into a car and in due time received for them the same price that we should have got at the cider mill. Of course those apples were of better quality than are usually called cider apples, as the early windfalls had been carefully picked up before the wind storm.

You may like to know how we usually dispose of the refuse apples. As we keep no pigs ourselves, we sell to those who do. There are livery stable men who often buy large quantities of such apples to feed out to horses and pigs, paying from twenty to thirty cents without the barrel. Last year we sold nineteen barrels to one man.

One of the difficulties in the way of our success as orchardists has been the scarcity of help. As we are unable to do the work ourselves, we are obliged to depend entirely on hired help. The orchard being a mile from our home it is impossible for me to personally superintend much of the work; hence it is necessary to employ reliable men who understand their business. Such, of course, command high wages. Consequently the orchard yields a smaller profit to us than it would to a man who could devote his own time to it and superintend the work in person. We have been very fortunate, however, in obtaining good help. For several years we have had the same man to take charge of the harvesting—one whom we can trust and who has the name of being one of the best apple pickers in our vicinity. Before him another equally good had the care of the gathering. The latter several times picked twenty-seven or eight barrels in a day just to see what he could do.

There are "exceptions to all rules," however, and we sometimes have unprofitable workmen. One, who was sorting apples a chilly day in October, as he lolled on the sorting table, remarked that he should like to sort apples if he had a chair to sit in and a fire to keep him warm. We thought a few games of football might help the young man.

The matter of spraying has caused us more trouble than any other. Any one who has tried it knows that it is not agreeable business. Comparatively few men in our town will do it for themselves and it is next to impossible to get them to do it for others. However, we sprayed two or three years, and as our spraying invariably brought an immediate shower or rain storm,

we have decided that we might as well spend our money some other way.

In fertilizing we meet with another difficulty. We believe in breaking up the soil and have done it somewhat but, having no team of our own, we are obliged to hire the work done and we find it hard to get it done properly and at the right time. So we have decided that top dressing is best for our smooth fields. One rough piece was several years ago fenced for pigs and they have kept the ground well plowed. The result has been a great improvement in the appearance of the trees and in the quantity and quality of fruit. Next year we hope to fence our Ben Davis orchard of about one hundred young trees which have scarcely begun to bear. A man of our acquaintance stands ready to put in fifteen or twenty pigs as soon as the hog fencing is up. Thus far we have used only barn dressing and wood ashes for fertilizing. Next spring we intend to try a commercial fertilizer.

One or two years we were troubled by mice. As a safeguard against them we used tarred paper with good results and stopped mulching the young trees. Whenever a thaw came in early winter we had the snow trodden hard around the trunks of the trees.

The matter of trimming the trees is a serious one with us. Few who understand the business have time to work for others. For the past two or three years comparatively little has been done in this line and the trees look sadly neglected. We have a few trees in the garden around our house. The last time these were trimmed for lack of better help I hired a man whose knowledge of the art was as limited as my own. So I told him to cut off simply the dead limbs and suckers. At first I kept an eye on him but, as the first two or three trees were done all right, I soon went about my household duties which were rather pressing just then. Later in the day I went out to see how he was progressing and was dismayed at the naked appearance of the trees. One tree in particular I remember—a Garden Royal, the whole top of which had been grafted to Ben Davis, leaving only a few lower limbs of the early fruit for our own use. He had cut off nearly every one of those cherished Garden Royal limbs. When I expressed my disapproval and asked why he did not follow my directions he replied, "Wal, I knew them natural fruit limbs ought ter come off so the grafts in the top could grow. I thought you, bein' a woman, didn't know, so I follered

my own judgment." And I, "bein' a woman," was filled with speechless indignation and turning on my heel went into the house. My sister, "bein' a woman," went out and gave him a piece of her mind.

Occasionally, when there are difficult matters to settle or things seem to go wrong with us, some jocose friend says, "Why don't you get married and have a man to manage your business for you?" And we reply that it is easier to manage an orchard than to manage a man.

During the season of 1901 and '02 if I remember correctly, apples sold for a high price. We wished to try our hand at shipping instead of selling to speculators as we had usually done. We decided to consign them to a London firm and having less than a carload ourselves we secured the consignment of other lots sufficient to fill the car, made all the arrangements, had a man at the station to look after the loading and sent them off. The returns were satisfactory. Later the Maine agent for this firm asked me to act as their permanent agent for Wilton and adjoining towns in securing consignments. I felt flattered but declined the offer. Since that year we have sold to speculators or shipped to some Liverpool firm as seemed best at the time.

Two years ago we, like others in this part of the State, were overtaken by a much larger crop than we were prepared to handle. Such a hurrying and scurrying as we had for barrels, buying in all about four times as many as we had ordered the first of the season. The barrels arrived. You should have seen them. Big barrels, little barrels, good barrels, poor barrels, white barrels, black barrels, clean barrels, dirty barrels, barrels with hoops, barrels without hoops, barrels with heads, barrels without heads. Since then we have bought factory barrels, paid less and got more. That year we sold seven hundred barrels of marketable apples besides windfalls and thirds.

Sometimes we sell early, sometimes late, according to the condition of the fruit and the state and prospects of the market. Sometimes we get a top price, sometimes we get caught. But on the whole we have been as fortunate as many of our more experienced neighbors.

This year the orchard yielded four hundred thirty-five barrels. We sold our Harveys at the orchard for \$2.50, shipped twenty barrels of windfall Baldwins which netted us \$1.82½ at Wilton station and have put into the cellar all our winter apples with

the exception of fifty-five barrels which, for lack of storage room, have been shipped to a Liverpool firm.

The average income from our orchard has been fairly good. Some years we have realized quite a sum from it, other years our receipts and expenditures have been about equal. In addition to the apple crop we usually cut seven or eight tons of hay which helps to pay expenses.

An orchard is like a horse, in order to do good work it must be well fed. As you well know, however, in the opinion of many every apple grower is little less than a prospective millionaire. They forget the feeding and remember only the yielding. They think only of the years of plenty and forget the years of famine which intervene. After the big apple crop of two years ago some of our acquaintances scoffed at the idea of our ever needing to work again or to deny ourselves any luxury. Nevertheless, we still find it necessary to do what all other orchardists may expect to do till the end of time—earn our living by the sweat of our brow.

But there is another side to this occupation which brings no small reward. From an aesthetic point of view, what is finer than an orchard of several hundred thrifty, well kept trees! What more beautiful than these trees in full bloom with their pink and white blossoms against the delicate green foliage! Then the delight of watching the apples grow from their tiny beginnings until they develop the size and coloring of the perfect fruit! Every apple grower knows with what a thrill of pride he views his orchard of ripened fruit when ready for the harvesting. Are not these things a part of the reward of the orchardist? We think so.

Men often dislike to trade with a woman. They have an idea that she expects them to give her the best end of the bargain and accommodate her at the expense of their own interests. They do not know how to meet her on a business basis. They do not seem to understand that she expects only the same treatment that honorable men accord to each other. For instance: A stranger called one evening introducing himself as a member of a prominent firm of commission merchants. We expected to hear of the business of his firm and the inducements which he could offer. Instead, he entertained us the whole evening with talk on various subjects—bits from his personal experience, amusing anecdotes, current news, etc. In the words of Whittier,

"He spoke of the grass and flowers and trees,
Of the singing birds and the humming bees;
Then talked of the haying, and wondered whether
The cloud in the west would bring foul weather."

In short, he made himself as agreeable as possible. When he rose to take his leave he said in a casual way that he hoped we would consign our apples to his firm, yet he had not given us the remotest reason for so doing. We appreciated the effort he had made but we gave him no consignment that year.

In our business correspondence my name is usually used, signed M. A. Bass. Much to the amusement of our friends many letters come with a Mr. prefixed. But when some of the men who have so long solicited our patronage chance to discover that their Mr. M. A. Bass represents only two old maids after all, we are often dropped like a hot coal. Our own townsmen have become accustomed to the situation and are not afraid of us.

Perhaps men have some grounds for avoiding business transactions with women. Women who are compelled to be their own business managers are sometimes heard to complain that men are always ready to take advantage of them; that men charge them a higher price for labor than they would charge a man; that men are not willing to work for them, etc., etc. There may be some truth in these charges. People are apt to be about as good as you expect them to be. When a woman is suspicious and exacting a man often meets her with a like spirit. If she expects to be cheated he does not want to disappoint her.

As for ourselves we have no complaints to make. From the first we have had many friends among the men of our town. They have been interested in our venture and anxious for our success. Some of them have done work for us when they have refused to work for men. They are pleased when we make fortunate sales and disappointed when we are unsuccessful. We consider every man our friend until he has proved himself unworthy of our confidence. We never try to drive sharp bargains but intend to give value for value and expect to receive the same from others. Only in rare cases have we received other than honorable dealings from men. We have reason to trust them. We realize our ignorance of many of the unwritten laws of business and doubtless we often transgress; but we have found men very lenient toward us and we are gradually learning the ways of the world.

Right here I wish to acknowledge our indebtedness to one of the orchardists of our town, Mr. R. C. Fuller. To him we have gone more than to any other for advice in orchard matters. Although a very busy man, he has spent many half hours in listening to our plans and perplexities and giving his opinion and advice. He himself, as some of you know, was for a period of years the owner of two orchards, one of which numbered one thousand trees, set by his own hands. Although he has now sold these he is still interested in orchard matters and is the same kind, disinterested friend and wise counsellor as before.

Such is the story of our experience in orcharding. There is in it nothing striking or unusual. It may, however, encourage some other woman into whose hands such work has been thrust.

A WOMAN'S WORK IN BEAUTIFYING THE HOME.

Mrs. KATE B. ELLIS, Fairfield.

It is said that our minds are receptive to a certain point and then they refuse to receive anything more. It does seem to me that tonight, after the two days' excellent meeting, after the many grand, good things you have had poured into your minds, your minds at this point must have ceased to be receptive.

A few years ago I went into a school and the teacher called the geography class. She called on a little girl to recite on the continent of Asia. The little girl got up and with an air of finality remarked: "There are three facts about Asia;" then she very coolly proceeded to give the three facts that there were about Asia. Well, now, I cannot tell you tonight that there are three facts to make your home beautiful, because you know, and I know that there are a great many facts and a great many fancies that go into the home beautiful. It is said that God divided man into men that they might help each other. And if there is anything that seems to us to make our home a little more beautiful, it is just that one thing, that we can tell each other in hopes that it may do something toward making their home beautiful.

I am going to be, perhaps you will think not courteous at first, for I am going to ask you to stand with me outside the home before I invite you into the house. But one of our leading

horticulturists has said that the yard is the outdoor parlor of the home. So I may not seem so discourteous as at first. You are indeed blessed if you have near your home some old elm trees. You are blessed if you have near your home trees of any sort. If you have not, one of the first things that you will want to do will be to plant trees. A man who plants a tree is a public benefactor. Stephen Girard, the founder of Girard College, said: "If I knew that I were to die tomorrow, yet today would I plant a tree." We have different tastes. It is perhaps well for quick growing to plant maples. Let me urge you to plant the horse-chestnut because of its beautiful foliage; and then when it is in blossom it is a beautiful bouquet. There is perhaps some liquor that comes from it. That can easily be taken care of. And then for another reason, it is a tree that pleases the children. I remember a few years ago taking some of my pupils into the yard of a friend who had had a horse-chestnut tree for a number of years, and showing them the little horseshoe that is formed out where each twig joins, and much to my astonishment my friend had never noticed the hundreds of little horseshoes that there were all over the horse-chestnut tree. That I think is where it derives its name. Perhaps some of you may have the horse-chestnut tree and possibly may not have noticed it, but it is a very pretty and perfect horseshoe with every nail set in its place regularly. The horseshoes are of different sizes. This is one thing that helps please the children besides giving the beautiful shade. I perhaps may differ in this respect from others but I would not have near my home many evergreens. The pines are beautiful if we do not get them too near our houses, but there is enough sombreness that comes into our lives without bringing the dampness and shade too near us. A strip of clean green grass in front of the house looks to me more beautiful than anything else. It seems a little strange that in even the planting and sowing of our lawns the National colors can come in. I have read that the best seed to mix for lawns is the redtop, the Kentucky blue grass, mixed if the lawn is sandy with the white clover seed, which you see gives us the red, white and blue. It struck me as a little peculiar.

Many of us like shrubs and bushes about our house. If we have them let us choose them with an eye to getting some that shall not be unsightly when they have gone out of bloom. And it is very pretty to put them in groups so that when one shrub

has ceased blossoming another may be there ready to blossom with the other shrubs for a background, a part of a beautiful bouquet. We all want the lilac, particularly because that pleases the children. You perhaps may think tonight that I shall refer a good deal to the children, but having been associated with them over twenty years in the schoolrooms, and having one of my own, you will pardon me, I know. If you have no children of your own, you will find plenty of other children that will be glad of your lilac bush. It is a perpetual pleasure to children while it lasts.

After the lilac comes the bush honeysuckle, then we get the spirea, the snowballs, and what we must have,—roses. Lately there is a shrub come into quite general use all over our State and that is the hydrangea. It hardly seems possible that in 1874 it was introduced into our country from Japan. It is now planted to such an extent that we find it nearly everywhere. I, perhaps, am not as fond of it as I am of a great many shrubs, because I like the good, old-fashioned posies myself and I like those that have an odor.

I am going to take you now for a few moments into my flower garden. In the first place, if it is possible, plant your flower garden where the most people can get the good of it. For years I was selfish and had my flower garden out back of the house because it was easier for me to get at it there, but afterwards I moved it right down across the road and I have been astonished to see the people that have stopped to get the good of my flower garden, and oftentimes people to whom I could give flowers that would not have had them in any other way. So if it is possible for you, put your flowers where they will do the most good.

If I could have but one flower, it should be the sweetpea. You perhaps will not all agree with me. I don't expect you to. But there are several reasons why I would plant sweetpeas. First, because they are very easy to cultivate. If you plant enough of them and plant them in different places each year you won't be troubled much. I had this last year over fifteen rods of sweetpeas and it was a great pleasure to me to pick them in big bunches—and I want them in big bunches—to give to my friends; and it was a pleasure to me to pick them in big bunches and take into my own home, that when I opened a door they would send out a welcome to me.

I want to say just a word about carnations too. I think many of you don't know what an easy flower the carnation is to raise. I have now carnations in my garden that have been there for three years and have never been touched and they blossomed this summer just as freely. I get my seeds, perhaps a package of ten cent Marguerite carnations, and when they are in blossom, if you give them proper care or good earth which is about all they need, you will find the blossoms just as beautiful as those you can find at the hothouse. I plant my seed in boxes of soft earth in the house; then we have a little hotbed out of doors which we prepare in the fall, my boy and I—it is an easy matter, you know the preparation of a hotbed so I won't speak of that. We prepare it in the fall and have it covered up with our sashes. In the spring when it becomes warm enough, oftentimes before the snow is off of the ground, when our boxes in the house get too full of the pinks and asters and pansies and things that we raise, we set them out in this hot bed. The only thing you have to be careful about is, don't keep your sashes covered too tight in the day time when the sun shines so that your plants will be burned up, and at night be careful to throw something over them. My carnations that I plant in the house I usually plant in lines; when they are large enough I transplant them to boxes; when my boxes get too many I transplant them to the hotbed. They are put out into the ground in the summer and in the early fall my carnations begin to blossom and during the winter I do not even have to cover them. Perhaps if you have an exposed place you might put a little over them. The next spring my carnations are there, almost as soon as the snow is off of the ground, green and healthy and ready to go to blossoming. A year ago this last year I set out 57 new carnations and I think I shall not exaggerate if I say that last July I had hundreds of blossoms on my carnation bed, of all varieties, besides the buds and half open flowers. And it gave me no trouble at all. I never have had any trouble in raising them. This year I set about 125 aster plants. There has been some trouble lately from the aster turning yellow and dying. There is no way to obviate that. Plant a few more plants so you won't miss losing them. Plant them in different places. If you plant them in the same place year after year, you will find that this little insect stays in the ground and will kill your plants in spite of you. So

plant them in a different place if possible. If not, pack tobacco stems and leaves about the roots and that will kill off the insects.

Nasturtiums,—yes—

“A tangle of bright green leaves all over the garden border,
A mass of wonderful bloom parading its gay disorder,
Yet such is their charm and delight one pauses, half ready to flout
them,
For oh, at its midsummer height, what were the garden without
them!”

Pansies,—we must have them. And Shirley poppies—if any of you have never tried them, let me advise you next year to get some packages of Shirley poppy seeds, which are only five to ten cents. My bed of Shirley poppies was the most beautiful thing in my whole garden. They are so delicate and they toss their little heads so daintily, and every morning almost there is a new shade, a new tint to greet you. Mignonette is so nice if you wish to carry a bouquet to a friend, it is so fragrant in the house. And we all must have the pansy, heart's ease, one could gaze for half a day upon this flower and think of the different tales of love and sorrow that gave it this gentle name.

But one of the best things of all about our garden is that it takes us out of doors. A lady once said to me, “Doesn't it make your hands black and how can you get the dirt out of your finger nails?” I told her that I could easily get the dirt out of my finger nails, and that it did make my hands black, but that I didn't mind the least bit in the world for to me the greatest pleasure in a garden is getting out of doors and digging and putting the things in myself and seeing them grow. It has been said that we have outgrown the sincerity of a life near the soil, but we can prove to people that we have not outgrown the sincerity of a life near the soil. Gardeners ourselves by birth-right, the sacredness of earth and heaven still clings to the tiller of the soil. I presume many of you here have read that beautiful little story “Elizabeth in her German Garden.” Although it is a beautiful story I cannot at all agree with Elizabeth, because she hired a gardener and an assistant gardener to do all her digging and put all her little plant children into the ground. And it tells how one Sunday, while her gardener and assistant gardener were eating their dinner, she crept out of the house and got her spade and some plants and planted them herself, and she was very much delighted in so doing. When she got through she said “Digging in a garden is not graceful work and

makes one hot, but it is a blessed sort of work and if Eve had had a spade in Paradise and had known what to do with it, we should not have had all that sad business of the apple." And I think it is so. If more of us had a spade and dug in the garden there would be a good deal less melancholy in this world and a good deal better feeling with us all.

It is sometimes said, "Does it pay to have flower gardens?" It does pay. Nearly everything that is needed to make the farm beautiful in the long run will pay in dollars and cents. I am not urging it solely on that account. Life is more than meat and the body more than raiment. It pays to elevate life, mind, tastes, thoughts.

Now I am going to ask you for just a few moments to step inside the house. First of all, let your home be within your means. Next, let your home be harmonious. Do not go to one store and buy a carpet, at another and buy your wall paper, at another and buy your shades,—without any thought of the other. Let it be harmonious. It is said that some of our leading physicians now in some of their most dangerous cases, particularly of nerve trouble, are simply putting their patients in harmonious surroundings and that the cure is wonderful. But I do not say by this that harmony makes the home beautiful, for I can imagine the home beautiful even with a red carpet, blue paper and green shades,—for the home is what the heart and the soul make it.

I remember when my little boy was between two and three years old we visited at the home of an uncle. He had just had a most beautiful new house built. It had stained glass in many places, it was polished and made of the most beautiful wood. We stayed there two weeks and when we went back to our home, our farm, which had none of these beauties, he sat down in his little chair in the dining-room, and as he rocked back and forth he looked all about the walls and I thought, "He is contrasting his home with his uncle's." But he looked up to me with a smile on his face and he said, "Mamma, my home does look better to me than Uncle Hennie's house." And that was it, his home looked better to him than some one else's house. That is the home beautiful, that looks better to us than any one's house.

I am going to speak just here about the most beautiful of all plants, and that is our children. This question should be turned

in our minds, Are we doing the best that we can for our children? Not, are we giving them the most? Are we giving them everything they want? but—Are we doing what is best for them. So many times, I think particularly we that live upon the farm, if there is but little comes in we give it all to our children. Is that right? We are laying up for them a harvest that is going to cause them trouble in future years. They are going to feel sorry that they have taken it all. I think in every home the parents should give to the children and the children should give to the parents. It should be mutual. Have your children do for you, as you do for them.

Another thing that I want you to cultivate in your homes, that I am trying to cultivate in mine, the greatest plant of all, is the plant of courtesy,—the plant of courtesy and love. We are so apt to forget to be courteous to our dear one. How many times our children will do some little thing for us and we will forget to say "Thank you;" we will forget to preface our requests by a "Please;" we will forget to say those little words "Excuse me" when we have hurt their feelings, when we would use them to a stranger—and they are dearer to us than the whole world. Let us not forget to be courteous to our dear ones, for that is one of the greatest elements that goes to make the home beautiful. It is said that courtesy is one of the qualities of God himself, who of his courtesy giveth his sun and his rain to the just and the unjust. Courtesy is the sister of charity which quencheth hate and keepeth love alive.



"Farmer packed" apples. Object lesson at Maine Pomological Society, 1905. F. B. Perley packed 'em. R. E. McLatchy (commission man) said such packing means \$4.00 a barrel.

SECRETARY'S PORTFOLIO.

LET THE GOOD WORK GO ON.

What with the daily press urging people to eat less meat and more fruit and vegetables; every Sunday paper printing a beauty page in which a fruit and vegetable diet is strenuously urged; physical culturists' physical culture shows urging the same thing, the butcher ought to be all a-tremble, even if every fruit grower and fruit dealer isn't already rich. Vegetarianism undoubtedly is making mighty strides, and we don't mind saying it's all the same to us.

Apple a day, keep the doctor away—
Apple at night, starve him outright—
Apple each meal, and one for sleep,
Kill him and shroud him and bury him deep!

Maids who seek a rosy cheek
Orchard-way go faring,
Apples ruddy, apples sleek,
Six a day seven days a week—
Show nor stint nor sparing,
Pluck and eat, sour or sweet,
Seed and core and paring.

Vaithful and vruitful and vree,
Yere's to the apple, lads, yere's to the tree!
Vriend o' the varmer, lads, ne'er may 'e vail
Till turnips be rosy, lads, and cherries be pale—
Huzzay, the apple tree.

—*Fruit Trade Journal.*

RICHARD H. LIBBEY.

Dr. GEO. M. TWITCHELL.

As we gather this year to arrange our exhibits and organize the work of these sessions, we miss the hearty greeting, the willing service, the earnest cooperation of one member of our executive committee and are made conscious that the lifework of Brother Richard H. Libbey has ended but for that influence which remains to inspire us to greater service. I knew him well, yet would not stand here for a moment to eulogize. Rather would I emphasize certain traits of his character which it were well for us to emulate.

What first won my admiration was his bold, fearless, outspoken criticisms of shams, whether in men or things.

He may have kindled animosities and prevented close friendships by his freedom of speech, but looking back over the years, I fail to recall an instance when his voice was raised against better conditions, higher aspirations, nobler practices. He condemned unsparingly the petty meanness of men whose only thought was to grasp for their own benefit what came within their reach, those who measured public service solely from the low standard of personal ends.

He was severe in criticism of measures, public or private, which thwarted the best good of any individual.

We smiled at his caustic thrusts and sometimes regretted the sharp personal allusions, but today can see that what he antagonized were the greed and selfishness of individuals, what he desired was to help to better conditions in public and private life.

He believed in his town and never hesitated to sing its praises.

Especially did he believe in Hillside Farm and its small fruits, and it was here and among these that one saw the real side of his life.

You who knew him will bear testimony with me to that unselfish spirit which prompted the most hearty assistance to any and every man who desired to know more about small fruit

culture, and many a visitor has gone from this farm, not only stocked with advice, but with plants and slips, when it was known that the product was to come in direct competition with his own.

Going home from our annual gathering at Skowhegan, where he had labored so untiringly for the success of the meeting, he said, as he struck his hands together in that manner peculiar when emphasizing a thought, "Oh, if the farmers of Maine would only wake up and take hold of these questions what a revolution we could work!"

"I wish I was a young man. How I would cover Hillside Farm with gooseberries, plums and currants and make things hum!"

Here was the spirit of the man, and to help quicken desire and love for the fruits of the garden and field was to him always a pleasure and a source of satisfaction.

Such men are helpers. Such men are missed. Such men are the builders whose work is seen long after they have rested.

Could he speak today he would ask no resolution of recognition of service performed, but would he not say to you and me: "What are you doing today to make this fruit gathering better, more complete and helpful than last year's? How are you shaping things to accomplish most for the trees, shrubs and vines, in whose companionship I have labored for years and which have never failed to give me good returns?"

In that pleasant home on the hillside, overlooking the lake and village, as well as orchard and shrubs, I have turned many times when worn with the cares of business and suffering from the burden of disease, and always was the welcome earnest and cordial, bringing rest and vigor to body and mind. Realizing there the intensity of this man's desire for better conditions, it came inevitably to measure him, as you and I hope to be measured, from the best side, and to realize that in his death, the village, town, county and State lost the active services of one who sought to build up those substantial industries which would endure and to stimulate love for those special lines of work to which so many years of his life were devoted.

May the mantle of his enthusiasm fall upon each and every one of us and through renewed efforts may we labor for the realization of his desire that every hillside shall bring forth a

bountiful harvest of fruit and every garden yield its wealth of berries and plums.

I can close these brief remarks in no better manner than to use his words, as one day we were talking about the going out of one we both knew.

Said he: "Let's have a sympathy for those who remain which will mean something more than mere words, and then let's take hold and go to work and do something."

HON. CHARLES A. MARSTON.

It is a singular fact that two of the life members received by our society in 1904 should die the following year. Mr. Marston first met with the Society at our orchard meeting in Manchester. Interested himself in fruit growing and pleased with the work of the Society he then and there became identified with the Society. At our annual meeting for that year held in Skowhegan he made an exhibition of excellent fruit and made a very pleasing address of welcome.

He was born in Waterville, May 26, 1851, the son of Isaiah and Eliza Coburn Marston. He was educated in the common schools and Bloomfield Academy. He settled in Skowhegan and became identified in one way or another with many of its material interests. He has served in both branches of the legislature. For fifteen years he was a member of the Republican town committee, being chairman ten years of the time. He was a member of several secret orders and a Mason of high standing.

His farm is in the southern part of the town and is said to be one of the finest estates in the county.

FRANCIS FESSENDEN.

General Francis Fessenden was a son of Senator William Pitt Fessenden. He was born in Portland March 18, 1839. He was educated in the old Portland Academy, Westbrook Seminary, and graduated from Bowdoin College in 1858. He studied law in his grandfather's office and attended the Harvard Law School. In 1861 he was in Minnesota and when President Lincoln called for volunteers he promptly tendered his services

to the government. He was appointed captain in the regular army. He had an honorable war record and after a long service, was retired as major-general. He attended the exhibition at Auburn in 1903 and was so much delighted with what he saw that he became an annual member of the Society and in 1904 he became a life member of the Society.

He died at his residence in Portland January 2, 1906.

FARMER-PACKED APPLES.

At the close of the fruit exhibition at Canton Mr. F. B. Perley of Vassalboro gave an excellent demonstration of the Vassalboro style of packing apples. The fruit was King taken from the exhibition tables, and the demonstration was witnessed by a large number. The lace top and the corrugated strawboard apple cap and stencil were brought in by Mr. R. E. McLatchey, a dealer in fruit and farm products. The fruit as packed made a fine appearance as shown by the illustration.

GOOD WISHES.

The Hon. Fred Atwood of Winterport was one of the earliest members of our Society. Circumstances have prevented his meeting with us in recent years, but like others the secretary knows he has a warm place in his heart for the Society. In a letter before our last annual meeting he writes: "I am one of the originators of the Society. A few of us gathered in the Augusta House parlor and formed the Society. Most of them have passed away. I have always had an interest in the institution and for its success in the early days took quite an active part. I do hope you will have a nice meeting. I trust that the association will advise and press upon the farmers of Maine the desirability of putting out fruit. An apple orchard is worth more today as a sound, solid income than an orange grove in Florida. There is no reason why an orchard well located and cared for will in a few years produce an income to support a good family. To do this they should buy their stock of known, honest people and have intelligence and education with some bone and muscle and a pick and some ground bone to fertilize and care for their trees. It is a pleasure to me to know of the society's success, as you remember I was one of a very few that were in at its birth."

WORDS FROM AN ENGLISH BUYER.

During the autumn of 1905 Mr. Fred Pritchard, who is widely known as the member of an English house, wrote a letter to one of our Pomona granges from which the secretary is permitted to copy the following:

"I argue the orchardist should export the product of his labors as a concentration of interests; for instance, I have known sections in Maine on the occasion of a medium to heavy crop being entirely neglected by the speculator who at the same time is making large profits in fruit bought by him in other apple producing parts of the country. I also advocate the grower shipping his own apples on the principle of economy. Why should he not earn the quarter of a dollar which is deducted from the price of the fruit to pay the packer? It is argued by speculators that if the farmer packs and exports his apples the trade will be ruined. He will pack everything and there will be no money in the business," says he, "as prices will rule low on account of the all round poor quality of the fruit."

I assure you I received dozens of parcels of apples from growers in Maine last season infinitely better packed than any of the old legend mark of the speculators which have made the Maine apple famous. I have seen growers' stencils sell higher than some barrels with the heads all stencilled over with "Highland Baldwins," and so forth.

Grading is a very important point and one very simply dealt with. I would grade apples, ones and twos separately, only when they will pack 75% ones down to $2\frac{1}{2}$ inches. When the proportion of twos is more than 25% I would pack ones and twos together, culling closely to make a good all-round sample. I have no specific reason for this advice except that my experience in selling Maine apples dictates it.

In Canada the government has a law for the packing of apples as to grades, and government inspectors visit railway stations and steamers loading to see it strictly enforced. The grades are XXX, culling for 90% of the contents of the barrel to be of fruit without blemish, not less than $2\frac{1}{2}$ inches and the face of the barrel is to denote the contents; XX calls for smaller fruit of proper form free of spot or blemish and the face shall denote the contents; X may contain inferior quality but not culls.

Should this law not be complied with the offender is subject to fine and his apples marked by the inspector, "Falsely described."

Such an act I should like to see in your State. Great confidence has been brought about in Canadian apples since the inauguration of the act and purchasers for European account have largely increased. And does it surprise you that such is the case when contracts can be made as follows: "A quantity of apples (varieties mentioned) 75% to be XXX stock government inspection."

There is a ridiculous side, however, to most things, and only this week I saw in a Liverpool catalogue the sale of some Canadian fall apples described as "Falsely described" sold at 18-6 per barrel.

* * * * *

When being sold by auction apples are catalogued in lots of 20 or 30 barrels depending largely upon the size of the parcel or mark. A rule of the auction is that no small lots (or lots less than 20 barrels) shall be sold until all the large lots are disposed of, so it is to the interest of growers when shipping to send not less than 22 barrels which allows of a large lot of 20 barrels being sold and of two samples being shown. Samples are sold altogether. In case of small lots, equal or as nearly equal as possible qualities are put together so as to make a large lot. The landing, selecting, selling and delivering is performed in a very short space of time especially on a strong market, when buyers are eager to fulfill their contracts.

* * * * *

The question of package is an important one and no barrel is superior to the old round hoop flour barrel. Some new barrels are all right; but many, especially the white wood ones, are too frail. I would strongly advise shippers in new barrels to have their cooper put on two extra quarter hoops inside and touching the present ones. These extra hoops strengthen the barrels materially and if placed where I suggest, the barrel rolls on the hoops instead of the bilge. The extra cost is one cent per hoop if the cooper is honest.

I have often been asked about shipping in boxes in recent years. Now if the barrel were discarded entirely for one season in favor of the box it would never be reinstalled, but on account of the conservatism of the English buyer and his lean-

ing to the old package, I cannot recommend any one for the present to make a business of the box shipping. Occasionally boxes sell well especially in Glasgow and repay the extra expense but the extra cost of packing make the business a laborious and precarious one. It must not be forgotten moreover that apples in boxes do not pay unless they are packed four tiers to the bushel box and each apple wrapped in paper.

A BUYER'S ESTIMATE OF THE CANADIAN FRUIT-MARKS ACT.

At the instance of the secretary, Mr. H. W. Lowell of Farmington, a large buyer and exporter of fruit, gives his estimate of the value of the Canadian Fruit Marks Act. Mr. Lowell has been in the business a long time and handles both American and Canadian fruit. This year he bought several orchard lots of fruit in Ontario. The fruit was gathered and packed by Mr. Lowell's men. Mr. Lowell's views are well worth the attention of our fruit growers for he is thoroughly conversant with the whole business.

The grower finds that it pays him better to give his fruit more careful attention as it is the 3 X grade that contains the profit, and that there is absolutely no money in raising scrubby, inferior X or 2 X stock, as it can no longer be palmed off under cover of fine facings at the ends of the barrel.

The Ontario farmer is attending to his orchard much better than formerly, by plowing, fertilizing and pruning.

The regular apple packer who may be employed either by the farmer or dealer is doing his work as a rule strictly in compliance with the Fruit Marks Act. Occasionally through lack of judgment he may be fined but these instances are now very rare as the government inspectors are alert, and the chance for fraud or ignorance in packing to go unpunished is now so small that it is unworthy of consideration.

The buyer has a great advantage from the fact that he can safely bank on getting the grade of fruit he buys. If he pays for 3 X fruit he knows he will get it, or that the Canadian government will severely punish the seller who attempts to defraud him. This enables him to pay more for the goods than he could afford to if there was any lurking doubt in his mind

as to the quality. His customers come to know that they can depend on the grade of Canadian 3 X so that today in the English markets Kings, Spies and Russets are selling on an average from 50 cents to \$1.00 per barrel higher than the same varieties of American apples put up for No. 1 or fancy.

I am heartily in favor of having a similar law in the United States but I fully realize that it would meet with opposition at first and no doubt would embarrass the packers and growers for a time, especially the small growers who in many cases never seem to want to learn how to properly select and pack their fruit, but these matters adjust themselves in a short time and I think in a few years everyone would be pleased with the results of the enforcement of such an act.

Of course there would be a tendency to place the packing of fruit in the hands of trained experts, but I see no objection to this as every grower can become an expert packer if he will or can afford the time to educate himself in the proper selecting and packing of his fruit.

The chief advantage to Canadian fruit is the fact that the world's markets have come to know that they can get exactly what the brand on each package indicates, and also a standard well made hard wood package—never a soft wood, straight, or weak half coopered, undersized barrel. Canadian packers would not dare to use such barrels as many Maine apples are shipped in.

INDEX.

	PAGE
Address, Annual, by Z. A. Gilbert.....	32
of Welcome, by W. W. Blanchard.....	29
Response to Address of Welcome, by W. M. Munson,	30
Annual Invocation, by Rev. Marcia Selman.....	27
Meeting Programme	20
Apple Box	73, 74, 75, 76, 119
Apples—Arctic	49
Baldwin	78, 79
Ben Davis	78
Black Ben Davis	48
Collins	48
Gano	48
Northern Spy	66, 67, 78
Sutton	48
Farmer-packed	117
Bass, Mary Augusta, paper by.....	99
Blanchard, W. W., address by.....	29
Brown-tail Moth (see under Insects).	
Business Transactions	19, 23
Buyer's, A, estimate of the Fruit-Marks Act, by H. W. Lowell,	120
Chase, Solon, talk by.....	66
his orchard	86
Craig, William, paper by.....	55
Cultivation and fertilization.....	33
Currants—Fay, Perfection, Prince Albert, Red Dutch, Victoria,	
Wilder	50
DeCoster, V. P., paper by.....	82
Ellis, Mrs. Kate B., address by.....	106
Executive Committee Meetings.....	7
Report	14
Experiments in orchard fertilizing, by Prof. W. M. Munson..	82, 87, 88
Fessenden, Francis, sketch of.....	116
Fruit crop of 1905.....	6
Fertilizers—Experiment Station formula.....	92
Fisher formula	84, 91
" Morse " formula	85

	PAGE
Fruit-Marks Act	118, 120
a buyer's estimate of same.....	120
in Canada, by William Craig.....	55, 63
legislation contemplated	65
Fruit Packages	119
Report of Committee, by E. L. Lincoln.....	69
D. Crossely & Sons, letter from.....	72
J. H. Jones, letter from.....	72
Seaverns & Co., letter from.....	72
Fruit Packing	57, 58, 61
Feasibility of Legislation, by Dr. Geo. M. Twitchell	61
Gilbert, Z. A., address by.....	32
Good Wishes, letter from Hon. Fred Atwood.....	117
Gooseberries	51
Gospel of Chase's Mills, by Solon Chase.....	66
Hitchings, Prof. E. F., Report by.....	37
Insects—Brown-tail moth	34, 37, 38, 39, 40, 43
Cecropia moth	47
Gypsy moth	38
Oyster-shell bark louse.....	43
Red-humped caterpillars	46
San Jose Scale.....	39
Strawberry weevil	39
Tussock moth	42
Woolly aphis	39
Insect Situation in Maine.....	34, 39
Report of legislation committee.....	34
What the Agricultural Department has done.....	37
What more the Society can do.....	40
Inspection of nurseries, etc.....	37
June berry	96
Knowlton, D. H., annual report.....	5
Report on doings of legislative committee...	35
What more the Society can do.....	40
Ladies' Night	93
Leland, Will E., made member of executive committee.....	20
Let the Good Work go on.....	113
Libbey, Richard, death of, sketch of, by Dr. Geo. M. Twitchell,	114
Lincoln, E. L., report of.....	69
Marguerite carnations	109
Markets, the	6
Marston, Hon. Chas. A., sketch of.....	116
Meeting, Annual	20, 23
Orchard	20

	PAGE
Meetings of executive committee.....	7, 19, 20
public	8
Members of the Society, Annual.....	12
Life	11
Morse, F. H., paper by.....	52
Orchard	85
Munson, Prof. W. M., paper by.....	88
Report of on New Fruits.....	48
Response to Address of Welcome.....	30
Officers for 1905.....	10
1906	23
Orchard condition	5
renovation of	90
Orchard Meeting	20, 78
Lessons learned at, by Edward L. White...	80
Place where it was held, by John W. True..	78
Permanent fund	15, 18
Phinney, Chas. S., orchard of.....	80
Poppies, Shirley	110
Pritchard, Fred, letter for.....	118
Report, Committee on New Fruits, by W. M. Munson.....	48
Executive Committee	14
Secretary	5
Treasurer	16
Resolutions and Recommendations:	
Courtesies	25
Exhibition rules	26
Fruit packing	25
Fruit Packages	26
President's Address	24
Results from Fertilizing and Cultivating, by V. P. DeCoster..	82
Ricker, A. S., orchard of.....	86
Scales, Lilla M., paper by.....	93
Secretary's Portfolio	113
Report	5
Selman, Rev. Marcia, invocation by.....	27
Shrubs	107
Storage of Fruit—Cooperative.....	55
Home Storage and Results, by F. H. Morse	52
Strawberries—Brandywine	51
Clyde	51
Crescent Seedling	95
Dorner (Uncle Jim).....	51
Dunlap	51
Gibson	51
Glen Mary	95

	PAGE
Strawberries—Lovett's Early	95
Marshall	95
New York	51
Sample	51
Transactions, Annual	9, 25, 34
Treasurer's Report	16
Trees, Elm	107
Horse Chestnut	107
Pines	107
True, John W., paper by.....	78
Twitchell, Dr. Geo. M., paper by.....	61
Memorial by	114
Virginia creeper	97
White, Edward L.....	80
Woman's Work in Beautifying the Home, by Kate B. Ellis...	106
Fruit Growing, by Lilla M. Scales.....	93
Orcharding, by Mary Augusta Bass.....	99
Words from an English Buyer, Fred Pritchard.....	118



